I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1
Final Environmental Impact Statement

VOLUME III

ENVIRONMENTAL ATLAS
PREFERRED ALTERNATIVE 3C

NOTE: The DEIS Volume III atlas which maps the Tier 1 alternatives is included by reference.

DECEMBER 2003

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ACKNOWLEDGEMENTS

Indiana Department of Transportation would like to thank the following agencies and individuals for their cooperation and participation in the creation and compilation of the GIS data used to create this Atlas. Acknowledged agencies and organizations provided tabular, hardcopy, and digital data used by IGS and Bernardin, Lochmueller and Associates, Inc. to create GIS layers and compile data for this Atlas.

BERNARDIN, LOCHMUELLER AND ASSOCIATES, INC. – businesses, floodplains, grade separations, homes, interchanges, Plainville sand dune region, power substations, trailer parks, subdivisions, water towers

BUREAU OF TRANSPORTATION STATISTICS (National Transportation Atlas Databases 2000) - railroads

CENTRAL INDIANA LAND TRUST INC. – managed lands

ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) – populated areas

FEDERAL COMMUNICATION COMMISSION - towers

FEDERAL EMERGENCY MANAGEMENT AGENCY (HAZUS database) - airports/heliports, colleges, hospitals/clinics, schools, emergency facilities (police/fire/civil), power stations

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT – designated rivers

Office of Land Management – landfills, dumps, underground storage tanks, superfund sites, industrial waste sites, voluntary remediation sites, and state cleanup sites

Office of Water Management - impaired steams, mussel diversity, public water supply wells, wellhead protection areas

INDIANA DEPARTMENT OF NATURAL RESOURCES – designated rivers

Division of Historic Preservation & Archaeology – Archaeology density, Indiana State Register historic sites

Division of Outdoor Recreation – recreation areas (inc. schools), recreation trails

Division of Reclamation – Coal AML sites and features, underground mines and entries, surface mines, coal refuse,

Fish and Wildlife Division – classified wildlife area density

Forestry Division – classified forest density, big tree champions

Heritage Data Center – managed lands, T&E species, natural regions, natural registry sites

INDIANA CANAL SOCIETY (Stan Schmidt) – historic Wabash-Erie and Central Canals

INDIANA DEPARTMENT OF TRANSPORTATION (State Highway Model) – major highways, Interstate interchanges

INDIANA GEOLOGICAL SURVEY –county boundaries, earthquake epicenters, structural features (faults), karst caves, karst dye-trace investigations, karst sinking areas, karst springs, gas/oil wells, industrial minerals, physiographic regions, pipelines, quarries, sand and gravel pits, powerlines

INDIANA HISTORIC LANDMARK FOUNDATION (IHSSI Program) – outstanding/notable sites and districts, historic cemeteries

NATIONAL PARK SERVICE – National Register historic structures and districts, National Natural Landmarks, Scenic Byways, Designated Rivers

NATURAL RESOURCE COMMISSION – designated rivers

NATURAL RESOURCE CONSERVATION SERVICE - STATSGO soils associations

NATURE CONSERVANCY – managed lands, high biodiversity areas

SYCAMORE LAND TRUST – managed lands

US CENSUS BUREAU (TIGER 2000 database) – roads, census population data, populated places

US ENVIRONMENTAL PROTECTION AGENCY – National Hydrography Dataset (joint with USGS)

(BASINS database) – toxic release sites, dams, mineral facilities, public water supply sites, wastewater treatment sites (CWNS)

US FISH AND WILDLIFE SERVICE (NWI database) – wetlands (PEM, PFO, PSS); lakes/ponds, rivers/streams

Patoka River National Wildlife Refuge – Patoka River National Wildlife Refuge lands

US FOREST SERVICE, HOOSIER NATIONAL FOREST – Hoosier NF lands and management areas

US GEOLOGICAL SERVICE – landcover grid, churches, cemeteries**,** National Hydrography Dataset (joint with USEPA)

WEINTRAUT & ASSOCIATES HISTORIANS, INC. – field verified historic structures on National Register, potentially eligible for National Register, or on the Indiana Register

INTRODUCTION

THE TIERED APPROACH

As a result of the size and complexity of this project, FHWA and INDOT determined that it was appropriate to use a "tiered" procedure for completing the environmental studies required under the National Environmental Policy Act (NEPA). The use of the tiered process to comply with NEPA is authorized under the Council on Environmental Quality (CEQ) regulations, which applies to all federal agencies, and under FHWA's own NEPA regulations (See 40CFR 1508.28 and 23 CFR 771.135(o)).

In accordance with this flexible approach, a Tiered Process has developed appropriate to the specific needs of this project. In this process, the purpose of Tier 1 is to provide the basis for an informed decision on a "corridor" for I-69 between Evansville and Indianapolis, *not* to determine the exact alignment for the highway. As a result, the environmental data in Tier 1 has been developed with the intention of providing the level of detail needed to make an informed decision on a corridor. This study is not intended to provide the basis for selection of an exact alignment, and therefore does not contain the level of engineering or environmental detail that would be needed to make a specific alignment decision. That information will be developed in Tier 2 NEPA studies.

FEIS ENVIRONMENTAL ATLAS -- PREFERRED ALTERNATIVE 3C

The I-69 EIS document evaluates and compares Build alternatives and a No-Build alternative for assessing the possible impacts of proposed I-69. In the DEIS, an Environmental Atlas (Vol. III) was prepared that mapped in detail each of the alternatives including all options and variations of those alternatives. The DEIS Environmental Atlas was completed in July 2002.

In January 2003, then Indiana governor Frank O'Bannon announced a preferred alternative from the alternatives studied in the DEIS. The preferred alternative is known as Alternative 3C. As editing and corrections of the DEIS were being done for the FEIS, it was decided that it was inefficient to reproduce the entire DEIS Atlas for all alternatives when the majority of pages would be unchanged. Instead, it was decided to include only the Preferred Alternative 3C in the FEIS Volume III Atlas, but include the original DEIS Volume III Atlas by reference. The FEIS document, continues to compare and contrast each of the alternatives originally studied in the DEIS. Both the DEIS and the FEIS Atlases are intended to support the understanding the analysis done in the FEIS.

FEIS ENVIRONMENTAL ATLAS – UPDATES / CHANGES FROM DEIS

All introductory documents have been reviewed and revised to be applicable to the Atlas for Preferred Alternative 3C. GIS data layers were re-evaluated and updated where appropriate as a part of the DEIS revisions. Although the Atlas for each alternative was not reproduced, impact quantification for all alternatives were based on these updated data layers.

Map Formatting Changes from DEIS:

1. All route maps were made with a background view of all alternatives to facilitate comparison
2. Minority and Low Income Population route maps have a revised color scheme to facilitate reproduction.
3. A map highlighting cemetery layer updates for the FEIS was included to disclose the addition further information.
4. Map sheets show the working alignment as a variable band (240 – 470 ft) rather than a solid line to aid in the understanding of potential impact area and typical section changes.
5. "Underground Mine Entries" symbology has been changed to identify types of mine entries (drift, slope, shaft) to increase understanding of the potential impacts.
6. Community features were changed from yellow symbols to orange to enable viewing on top of the yellow working alignment.

Data Layer Updates / Changes from DEIS:

1. Cemeteries layer obtained from USGS and updated by field and map review was further updated by adding sites from County Historic Interim Reports and miscellaneous public comments on the DEIS.
2. Coal AML site mine entries was removed from the Atlas due to extensive overlap with the underground mine entries layer.
3. Combs Unit of Martin State Forest layer was added to the GIS when its position was determined by DEIS comments and consultation.
4. Industrial waste layer from IDEM was updated to the a more recent version (January 2002), while the similar RCRA layer downloaded from USEPA was removed due to a lack of confidence in data currentness and positional accuracy.
5. Landfills and Permitted Active Waste Sites from IDEM was updated with the most recent version (January 2003)
6. Patoka River National Wildlife Refuge layer was updated to the most recent version (2003) that includes new lands purchased within the acquirement boundary since the acceptance of the DEIS.
7. Petroleum wells was updated with the a more recent version (June 2002).
8. Pipelines layer was updated with the most recent IGS file (1988). The new file contained a cleaner, final version compared to that used in the DEIS.
9. Powerlines layer created from TIGER 2000 line files was replaced by a powerlines layer created by Indiana Geological Survey from Cinergy data which was more complete, contained more attributes, and had more positional confidence.
10. Recreation areas layer provided by the IDNR Division of Outdoor Recreation was updated to the most recent version (August 2003). This update also affects schools queried out of this layer.
11. Superfund sites layer obtained from IDEM was updated to the most recent version (January 2003), while the similar CERCLA layer downloaded from USEPA was removed due to a lack of confidence in data currentness and positional accuracy.
12. Threatened and Endangered Species provided by the IDNR Heritage Database was updated to the most recent version (July 2003).
13. Trails layer provided by the IDNR Division of Outdoor Recreation was updated to a more recent version (March 2002).
14. Towers provided by Geocommunity were removed due to extensive overlap with towers provided by the FCC which had better data position and currentness.
15. Underground Storage Tanks layer provided by IDEM was updated to the most recent version (January 2003).
16. Leaking Underground Storage Tanks layer provided by IDEM was updated to the most recent version (January 2003).
17. Impaired Streams provided by IDEM was updated to the 2002 303d list of impaired waters.
18. The corridor was widened near Washington (atlas sheet 7) and Hobbieville (atlas sheet 12) to provide additional flexibility for impact avoidance/minimization.

Layers Removed from DEIS for Homeland Security:

In recognition of recent concerns, state laws, and evolving regulations for state agencies, the following data layers were voluntarily removed in the interest of homeland and sensitive data security. These files were considered for impacts within the text of the EIS, but were kept confidential following procedures already in place regarding sensitive sites such as archaeology sites and endangered species locations.

1. Public water wells provided by IDEM
2. Public water intakes provided by IDEM
3. Wellhead protection areas provided by IDEM
4. Drinking water supply sites provided by USEPA
5. Wastewater / Runoff Treatment Plants provided by USEPA
6. Water Towers obtained from USGS 7.5' Quadrangles

HOW TO USE THIS BOOK

PURPOSE

The purpose of this Environmental Atlas is to supplement the information provided in the I-69 Evansville to Indianapolis Study: Tier 1 Environmental Impact Statement (EIS). As issues are discussed within the EIS, this Atlas may be used to gain a visual perspective of those issues and a better understanding of possible impacts at large. This Atlas depicts the preferred alternative 3C for proposed I-69 from Evansville to Indianapolis. It begins with route maps that depict various issues across the entire preferred alternative. Then, the preferred alternative 3C is shown at a scale of 1:36000 (1 inch = 3000 feet) in a series of sheets beginning near Evansville (Sheet 1) and ending at Indianapolis (Sheet 20). To make navigation clear, the route index should be used to identify where each sheet is located along the alternative. Lastly, the Atlas contains a summary of listed species and historic sites. The listed species summary contains all federal and state listed species (endangered, threatened, rare, concern) of animals, plants, and high quality natural communities observed on a map sheet, with any species sited within a 2-mile wide study band marked with an asterisk. The historic site summaries contain all sites within the project Area of Potential Effect (APE) that are on the National Register, evaluated as Potentially Eligible for National Register, or State Register. This Atlas should be considered an addendum to the more comprehensive Atlas prepared for the alternatives for I-69 studied in Tier 1. The DEIS Atlas is included in this document by reference.

GIS BASICS

The Environmental Atlas was created using a Geographic Information System (GIS). GIS analysts use hardware, software, and data to display visual maps and perform spatial and statistical analysis on the data. Spatial data contains all the spatial information of conventional maps, but its digital form allows much more flexibility in how it is represented. Datasets are categorized and stored separately into themes or layers. This organization in the GIS make maps much more flexible to use since layers can be combined in any way that is useful. Examples of layers include line data (roads, streams), polygon (area) data (parks, cities, counties, lakes), point data (cemeteries, churches, water towers), and digital photographs (aerial, satellite). To ensure the layers overlay accurately, the data set is "geo-referenced" to a common coordinate system. This Atlas uses the UTM Zone 16 coordinate system (meters) with NAD 83 datum. GIS stores both spatial and attribute data in the system that links the data and allows analysts to ask questions about a layer in relation to itself or other layers. Some examples of possible questions are: "What cemeteries are within 100 feet of the working alignment and are located in a floodplain?" What managed areas are publicly owned, overlap the study band, and have more than 3 species sitings?" "How many acres of wetlands may be affected within the study corridor for alternative 2 in Gibson County?" Environmental Systems Research Institute (ESRI), developers of the widely used GIS software ArcInfo, ArcView, and ArcGIS give the following definition of GIS (1997):

> "A geographic information system (GIS) is a computer-based tool for mapping and analyzing things that exist and events that happen on Earth. GIS technology integrates common database operations such as query and statistical analysis with the unique visualization and geographic analysis benefits offered by maps. These abilities distinguish GIS from other information systems and make it valuable to a wide range of pubic and private enterprises for explaining events, predicting outcomes, and planning strategies."

MAP INTERPRETATION

This Atlas was created in GIS using digital spatial data, the majority of which was created and compiled in the Southwestern Indiana Geodata Set (http://igs.indiana.edu/arcims/index.html). Data within the set was the best known to exist at the time (2000-2001), but it is important to recognize that layers came from many different sources and were created for use at very different scales. Some data was created for use at large scales (1:5000), while others were intended for small scales (1:250,000). The mapping scale of the Atlas is 1:36,000. Therefore, data created at a smaller scale may have positional inaccuracy in this application. Also, it is essential to consider the time sensitivity of a layer under consideration. Data is only accurate up to the date that it was last collected or updated and highly dynamic layers may have changes that are not represented. Although data used was the best available at this time, data investigation has shown that many cannot be expected to be wholly comprehensive or complete. The creation of the FEIS Preferred Alternative 3C Atlas included updated files where reasonable and appropriate. Files which were updated since the original DEIS Atlas are described in the "Introduction" page of this Atlas. With this awareness, it is important that users view this Atlas in the appropriate context, which is a model of what may be encountered in the area today. This Atlas should not be used to replace fieldwork to assess impacts more precisely in Tier 2 of the I-69 study, nor should it be used to consider any summaries of features complete and final. Changes and corrections should be expected. The value of this representation is that it will provide an efficient and acceptably accurate means to compare proposed alternatives. Map users are strongly urged to review the description of layers before drawing any conclusions based on a data layer. All GIS data was provided by its creator in good faith, and the burden is on the data user to understand any limitations to data interpretation or use.

DEFINITION OF TERMS

PROJECT TERMS

Alternatives – possible routes for I-69 to connect Evansville to Indianapolis, plus a No Build alternative studied in Tier 1.
Preferred Alternative – the alternative route chosen to be comprehensively studied in Tier 2.
Working Alignment - potential location for a highway right-of-way within the 2000-foot-wide corridor. The FEIS is not intended to result in the selection of a specific alignment. However, working alignments have been developed within each corridor in order to provide a sound basis for estimating the environmental impacts of each alternative. The working alignments range in width from 240 to 470 feet. Three factors were considered in estimating the right-of-way widths for sections of each working alignment (1) the topography of the land; (2) the number of frontage roads expected, if any; and (3) the number of lanes expected. (See EIS Appendix E, "Typical Sections", for detailed information on widths of each working alignment.)
Corridor – approximately 2000-ft wide in most areas, for each alternative. The Tier 1 decision will be made on a corridor, rather than an alignment. The corridor has been narrowed in some instances to avoid sensitive areas, and widened in some areas to provide additional flexibility for impact avoidance/minimization.
Impact Length – length of an alternative that does not include the length of committed projects within the alternative. It represents the length of the alternative that will be impacted by only the proposed I-69 project.
Map Sheet - a single Atlas sheet within the series of sheets that makes up an Atlas of an entire alternative
Route Map – a single map showing one entire alternative in relation to some specific environmental issue.
Study Band - 2-mile wide band within which the study team focused its environmental data-gathering efforts for each alternative. Much of the data was gathered throughout the 26-county area, but more intensive efforts (i.e. field verifications) were concentrated within the study bands.
Total Length – length of an alternative from Evansville to Indianapolis, includes committed projects

TERMS

CERCLA Site- a site contaminated with a hazardous substance and being remediated as part of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Many of these sites are considered "Superfund".
CERCLIS - Comprehensive Environmental Response, Compensation, and Liability Information System - is a database that includes all sites currently on the National Priorities List, or being considered for it.
Committed Project – A project that is expected to occur regardless of the proposed I-69 project. Improvements to I-70 from Indianapolis to Terre Haute, and the construction of SR 641, the Terre Haute bypass, are examples of committed projects.
Coverage – ArcInfo GIS digital file type. Its extension is .e00.
EIS – Environmental Impact Statement. A detailed document prepared as part of the NEPA process.
Geographic Information System – organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.
Grade Separation – overpass or underpass
Grid – raster data format depicting the feature in pixel squares
Layer – individual digital GIS data file. Many layers (aerial photo, roads, churches) are used in a project to create one map.
Horizontal Alignment – location of the road as it can be moved from side to side, usually done by using curves
Impaired Stream – a stream listed in the IDEM 2002 303 (d) List of Impaired Waterbodies. These streams do not meet Indiana's water quality standards. Streams may be impaired due to chemical or biological contaminants.
Jurisdictional Wetland - A wetland regulated by the Army Corps of Engineers as a "water of the United States" under the Clean Water Act. Jurisdictional wetlands must be mitigated for (recreated, restored, or enhanced) if impacted.
Karst – landscapes characterized by caves, sinkholes, underground streams, and other features formed by slow dissolving, rather than mechanical eroding of bedrock. Karst areas can be especially sensitive to groundwater pollution.
Managed Lands – lands that are actively managed by federal, state, and local, agencies and private land trusts. Includes areas such as state parks, refuges, nature preserves, local parks, river access and fishing sites**.**
National Natural Landmark - a site that is one of the best examples of a type of biotic community or geologic features in its physiographic province. The site may be publicly or privately owned.
Natural Region - a major, generalized unit of the landscape where a distinctive assemblage of natural features is present. The natural region classification system includes several natural features, such as: climate, soils, glacial history, topography, exposed bedrock, pre-settlement vegetation, species composition, physiography, and plant and animal distribution.
NEPA (National Environmental Policy Act) - a federal law stating that before a federal agency can undertake an action that might adversely affect the environment, the agency must consider the potential effects of the actions and any possible alternative course of action that might minimize those effects. The I-69 FEIS is being prepared as part of the NEPA process.
Notable Sites/Structures - property did not quite merit an "Outstanding" rating, but still is above average in its importance. Further research or investigation may reveal that the property could be eligible for National Register listing. The property may be eligible for the Indiana Register of Historic Sites and Structures. Most surveys were done by the Indiana Historic Landmark Foundation as part of the Indiana Historic Sites and Structures Inventory.
NWI (National Wetland Inventory)- a portion of the U.S. Fish & Wildlife Service that produces information on the characteristics of the nation's wetlands and deepwater habitats.
Outstanding Sites/Structures - property has enough historic or architectural significance that it is already listed, or should be considered for individual listing, in the National Register of Historic Places. Most surveys were done by the Indiana Historic Landmark Foundation as part of the Indiana Historic Sites and Structures Inventory.
Physiographic Region - a region of similar topography and land use.
Populated Area – general boundary where there is some density of residential development, similar to city limits
Prime Farmland – land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the landuse could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water).
RCRA Site – a site that is regulated by the Resource Conservation and Recovery Act to either generate, transport, store, or dispose of hazardous waste. Many industrial waste sites are in the RCRA program.
Sections (Tier 2) – The Tier 1 corridor decision will be divided into six sections which will be independently studied by different contractors in Tier 2 to reach a specific alignment decision.
Section 4(f) –FHWA will not approve any program or project which requires the use of any publicly owned public park, recreation area, or wildlife or waterfowl refuge, or any land from an historic site of national, state, or local significance unless: (1) there is no feasible and prudent alternative to the use, and (2) all possible planning to minimize harm resulting from such use is included.
Shapefile – ArcView GIS digital data file type. Its extension is .shp.
Superfund Sites - uncontrolled or abandoned places where hazardous waste is located, possibly affecting local ecosystems or people
Tier 1 – an Environmental Impact Statement that may be completed for large studies that require certain major questions to be answered before a more detailed study can be done. For I-69, Tier 1 will result in a decision on a variable corridor to be further studied.
Tier 2 - a more detailed Environmental Impact Statement completed after a FEIS has been done. This study addresses more specific issues concerning a project including impacts and mitigation. For I-69, the decision for Tier 1 will be divided into six sections and studied in Tier 2. Tier 2 will result in a specific alignment decision.
Typical Section - a section cut through a roadway that shows the typical configuration and design features. This will usually include lane and shoulder widths, profile grade and construction centerline location, roadway cross slopes, side slopes, ditches and clear zones. Right-of-way width estimations were developed from typical sections.
Vertical Alignment – location of the road as it can be moved up or down through hills and valleys
Wellhead Protection Area - the surface and subsurface area which contributes water to a public water supply well and through which contaminants are likely to move through, and reach, the well over a specified period of time. A wellhead protection area may be delineated by a fixed radius, hydrogeologic/geomorphic mapping, analytical, semi-analytical, or numerical flow/ solute transport methods.

ACRONYMS

TERMS

AML	Abandoned Mine Lands
APE	Area of Potential Effect
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Hazardous Waste Sites) (Superfund)
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System (Hazardous Waste Sites)
CWNS	Clean Water Needs Survey (wastewater collection/treatment)
DOQQ	Digital Orthographic Quarter-Quadrangle (registered aerial photograph)
DRG	Digital Raster Graphic (often refers to digital USGS 7.5' quadrangles)
EIS	Environmental Impact Statement
GIS	Geographic Information System
LUST	Leaking Underground Storage Tank
NEPA	National Environmental Policy Act
NPL	National Priorities List (Hazardous Waste Sites)
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
TES	Threatened and Endangered Species
UST	Underground Storage Tank

AGENCIES

CILTI	Central Indiana Land Trust Inc.
DHPA	Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology
ESRI	Environmental Systems Research Institute, Inc.
FAA	Federal Aviation Administration
FGDC	Federal Geographic Data Committee
FHWA	Federal Highway Adminastration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
IDOR	Indiana Department of Reclamation
IGS	Indiana Geological Survey
INDOT	Indiana Department of Transportation
IU	Indiana University
NPS	National Park Service
NRCS	Natural Resource Conservation Service
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	US Geological Service

Mapping Layer Descriptions and Sources

Layers Shown and/or Labeled on Atlas Map Sheets

SUBJECT: AERIAL PHOTOGRAPHS (DOQQs) – 1998-99 aerial photographs developed by the USGS and provided by Indiana University
LAYER: "Quad_name_quarter".sid
DESCRIPTION: Ortho-corrected, geo-referenced, aerial photographs taken in 1998-1999 with 1-meter resolution. They were developed by the USGS and obtained by download from the Indiana University's Massive Data Storage System (MDSS) (http://storage.iu.edu/DOQQS/index.html).

SUBJECT: AIRPORTS/HELIPORTS –airports and heliports locations developed by FEMA and field checked by Bernardin, Lochmueller and Associates
LAYER: AIRPORTS_HAZUS_SW [IGS]: Airports in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile)
DESCRIPTION: point shapefile that shows locations of airports in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). Airports include large public transportation hubs as well as small private strips. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also reviewed using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: BIODIVERSITY – areas The Nature Conservancy considers important for biodiversity; developed by The Nature Conservancy
LAYER: BIODIVERSITY_TNC [BLA]: High Biodiversity Areas in Southwestern Indiana (The Nature Conservancy, Polygon Shapefile)
DESCRIPTION: a polygon shapefile that shows areas that The Nature Conservancy considers important for high biodiversity. The Nature Conservancy developed this coverage.

SUBJECT: BUSINESS – business locations developed by Bernardin, Lochmueller and Associates from field review
LAYER: BUSINESS_HOME_APPX_I69RTS (Business and Home locations in portions of Southwestern Indiana, Bernardin, Lochmueller and Associates, Scale 1:24,000, Point Shapefile)
DESCRIPTION: shapefile depicts the location of businesses and homes (single and multiple family) along proposed I-69 routes (Tier I). The points were digitized from USGS 7.5' quadrangle DRG files and checked, attributed, and updated by field review. Data was collected within a 2-mile wide study band except in densely populated areas where it was collected within a 2000-foot study corridor. No data was collected along existing Interstates. This file is not to be used for an exact count of businesses and homes within an area, but only to give a near approximation of the density of businesses and homes located in an area.

SUBJECT: CANALS – routes, reservoirs and structures associated with the Wabash-Erie and Central Canals developed by Bernardin, Lochmueller and Associates from information provided by Stan Schmidt of the Indiana Canal Society.
LAYER: (1) CANALS_HISTORIC_STRUCTURES_SW [BLA]: Historic Canal Structures in Southwestern Indiana (Bernardin, Lochmueller and Associates, Point Shapefile), (2) CANALS_HISTORIC_ROUTES_SW [BLA]: Historic Canal Routes in Southwestern Indiana (Bernardin, Lochmueller and Associates, Line Shapefile) (3) CANALS_HISTORIC_RESERVOIRS_SW [BLA]: Historic Reservoirs Associated with Canals in Southwestern Indiana (Bernardin, Lochmueller and Associates, Polygon Shapefile)
DESCRIPTION: Layers were developed through information and expertise provided by Wabash-Erie Canal historians and the Indiana Canal Society. (1) point shapefile showing the locations of historic structures that did and may still exist along the Wabash Erie Canal. (2) Line shapefile showing the historic location of the Wabash Erie Canal and Central Canal. Many areas have been destroyed by development, but canal stretches still exist. (3) polygon shapefile showing the location of historic reservoirs used to provide water to the canals.

SUBJECT: CEMETERIES – cemetery locations reported by the USGS and field checked by Bernardin, Lochmueller and Associates
LAYER: CEMETERIES_USGS_SW [BLA]: Cemetery Locations in Southwestern Indiana (United States Geological Survey, 1:24000, Point Shapefile)
DESCRIPTION: point shapefile showing cemetery locations in southwestern Indiana. The locations and attribute values for cemeteries are from the U. S. Geological Survey, Geographic Names Information System. *It is a subset of a national database and is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1). Further updates were done by adding historic cemeteries marked in the Indiana Historic Landmark Foundation county interim reports and described by public comment to the DEIS.

SUBJECT: CHURCHES – church locations reported by the USGS and field checked by Bernardin, Lochmueller and Associates
LAYER: CHURCHES_USGS_SW [BLA]: Church Locations in Southwestern Indiana (United States Geological Survey, 1:24000, Point Shapefile)
DESCRIPTION: point shapefile showing church locations in southwestern Indiana. The locations and attribute values for churches are from the U. S. Geological Survey, Geographic Names Information System. *It is a subset of a national database and is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: CIVIL DEFENSE – civil defense locations developed by FEMA and field checked by Bernardin, Lochmueller and Associates
LAYER: EMERGENCY_HAZUS_SW [IGS]: Emergency Facilities in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile)
DESCRIPTION: point shapefile that shows locations of emergency facilities in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.*

SUBJECT: COAL, ABANDONED MINE LANDS (AML) – mining land that have been or have need to be reclaimed
LAYER: (1) COAL_AML_FEATURES_SW [IGS]: Abandoned Mine Lands, Miscellaneous Site Features in Parts of Southwestern Indiana (Indiana Geological Survey, 1:24000, Polygon Shapefile) (2) COAL_AML_MISC_SW [IGS]: Abandoned Mine Lands, Entrances, Equipment, Facilities, and Dangerous Gases in Parts of Southwestern Indiana (Indiana Geological Survey, 1:24000-scale, Point Shapefile)
DESCRIPTION: (1) shows the locations and extents of Abandoned Mine Lands (AML) sites and site features in the coal region of southwestern Indiana. This shapefile, and associated shapefiles, were compiled by the Indiana Geological Survey (IGS) and includes all Indiana sites listed on the federal AML site inventory. COAL_AML_FEATURES_SW was derived by the IGS from preexisting AutoCAD files digitized by personnel of the AML program IDOR. This shapefile includes polygon features from all Indiana sites that lie within the boundaries of the 26 southwestern counties, and it includes attributes that allow the polygons to be differentiated based on site type, site number, and site feature type. (2) shows the locations of point features associated with Abandoned Mine Lands (AML) sites in the coal region of southwestern Indiana. This shapefile, and associated shapefiles, were compiled by the Indiana Geological Survey (IGS) and includes all Indiana sites listed on the federal AML site inventory. COAL_AML_MISC_SW was derived by the IGS from preexisting AutoCAD files digitized by personnel of the AML program IDOR. This shapefile includes point features from all Indiana sites that lie within the boundaries of the 26 southwestern counties, and it includes attributes that allow the points to be differentiated based on point type (mine entrances, equipment/facilities, and hazardous/explosive gases), site type, and site number. Mine entrances were not depicted on the Atlas due to overlap with the more comprehensive "underground coal mine entries" layer.

SUBJECT: COAL MINES, UNDERGROUND – areas of underground coal mines developed by the IDOR and IGS (2000)
LAYER: (1) COAL_MINE_ENTRIES_SW [IGS]: Underground Coal Mine Entrances in Southwestern Indiana (Indiana Geological Survey, 1:24000, Point Shapefile) (2) COAL_MINE_UNDERGROUND_SW [IGS]: Underground Coal Mines in Southwestern Indiana (Indiana Geological Survey, 1:24000, Polygon Shapefile)
DESCRIPTION: (1) point shapefile shows the locations of entrances of underground coal mines that operated in Indiana (1830s – 2000) in the coal region of the southwestern 26 counties of Indiana. The shapefile was compiled by the Indiana Geological Survey (IGS). The shapefile incorporates mine entrance locations compiled as part of the Indiana Coal Mine Information System (CMIS), an integrated geographic information system (GIS) and database management system (DBMS) created to store, analyze, and help distribute coal mine data in Indiana. (2) polygon shapefile that shows the location and extent of underground coal mines in the coal region of west-central and southwestern Indiana. The shapefile was compiled by the Indiana Geological Survey (IGS). It incorporates underground mine locations compiled by the IGS in the early 1980s with hundreds of historic underground mine locations digitized in 1998-1999 and contemporary mine outlines digitized for the Directory of Coal Mines and Producers in Indiana - 2000. Original source information includes company mine maps, field maps and notes of IGS Geologists, IGS publications, and Indiana State Mine Inspector Reports.

SUBJECT: COAL MINES, SURFACE – areas of surface coal mines developed by IDOR and IGS
LAYER: COAL_MINE_SURFACE_SW [IGS]: Surface Coal Mines in Southwestern Indiana (Indiana Geological Survey, 1:24000, Polygon Shapefile)
DESCRIPTION: polygon shapefile that shows the location and extent of surface coal mines in the coal region of west-central and southwestern Indiana. The shapefile was compiled by the Indiana Geological Survey (IGS). It incorporates surface mine locations compiled by the IGS in the early 1980s with a few hundred contemporary mine outlines digitized from affected-area maps collected from the Indiana Division of Reclamation and maps collected from coal companies for two IGS Coal Directories. Original source information includes company mine maps, field maps and notes of IGS Geologists, IGS publications, several series of aerial photographs, and U.S. Geological Survey 7.5-minute quadrangle maps.

SUBJECT: COAL REFUSE – gob and slurry deposits from inactive coal preparation areas developed by IGS
LAYER: COAL_REFUSE_SW [IGS]: Refuse Deposits from Coal Preparation in Southwestern Indiana (Indiana Geological Survey, 1:47639, Polygon Shapefile)
DESCRIPTION: polygon shapefile showing the distribution of refuse deposits (including coarse-grained refuse known as "gob" and fine-grained refuse known as "slurry") from inactive coal preparation areas in southwestern Indiana. The shapefile was compiled by personnel of the Indiana Geological Survey from maps published by the Laboratory for Applications of Remote Sensing, Purdue University, and from CAD files provided by personnel of the Indiana Division of Reclamation. Mapping refuse locations is important because the chemistry of their composition makes them particularly susceptible to leaching of acidic water. Since these areas are often capped with soil during the reclamation process, it is important to retain maps so that the location and extent of refuse areas are known.

SUBJECT: COLLEGES – colleges, universities, and technical college locations developed by FEMA and field checked by Bernardin, Lochmueller and Associates
LAYER: COLLEGE_HAZUS_SW [BLA]: Colleges and Universities in Southwestern Indiana, Derived from Hazus (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: point shapefile that contains locations for the major private and state universities and colleges in southwestern Indiana. It also includes business, trade, seminar, and community colleges. Database contains information about student enrollment and activities for some major schools. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: COUNTIES – county boundaries created from USGS maps
LAYER: PLSS_COUNTY [IGS]: County Boundaries in Southwestern Indiana, According to the Public Land Survey System (Indiana Geological Survey, 1:24000, Polygon Shapefile)
DESCRIPTION: polygon shapefile showing county boundaries for the 26 southwestern counties of Indiana. The county boundaries were digitized from Public Land Survey System boundaries, as they appear on United States Geological Survey (USGS) 7.5-minute quadrangle maps.

SUBJECT: DAMS – dam locations developed by USACE and FEMA and provided by the USEPA (1996)
LAYER: DAMS_EPA_SW [BLA]: Inventory of Dams in Southwestern Indiana, Derived from EPA BASINS (Environmental Protection Agency, Point Shapefile)
DESCRIPTION: point shapefile published by the EPA BASINS after initial development by the U.S. Army Corps of Engineers and the Federal Emergency Management Agency. It was developed to track dam-related problem areas. The layer includes small dikes and impoundments and well as major structures. Attributes include dam name, structure characteristics, reservoir characteristics, and agency authority. Data was created on a small scale, so use on large-scale maps may result in some positional inaccuracy.

SUBJECT: EARTHQUAKE EPICENTERS – earthquake locations developed by IGS from data provided by St. Louis University; Department of Earth and Atmospheric Sciences, and USGS National Earthquake Information Center
LAYER: EARTHQUAKE_EPICENTERS_SW [IGS]: Epicenters of Historical Earthquakes Located in Southwestern Indiana (Indiana Geological Survey, 1:3500000, Point Shapefile)
DESCRIPTION: shows the locations of all known historical earthquakes in and near Indiana. It includes earthquake locations derived from both instrumented recordings and calculations from historical accounts. The shapefile is an amalgam of points created from catalogs maintained by Saint Louis University, Department of Earth and Atmospheric Sciences and the U.S. Geological Survey National Earthquake Information Center. The point attributes include: source catalog, earthquake date, location coordinates, magnitude value, and magnitude code. The magnitude codes describe the methodologies used to determine the magnitude values.

SUBJECT: ELECTRIC POWER FACILITY – electric power plant locations developed by FEMA
LAYER: POWER_HAZUS_SW [IGS]: Electric Power Facilities in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile)
DESCRIPTION: point shapefile that shows locations of electric power plants in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: ELECTRIC POWER SUBSTATIONS – electric and gas substation locations developed by Bernardin, Lochmueller and Associates from USGS 7.5' quadrangle maps and field review.
LAYER: POWER_STATIONS_I69RTS [BLA]: Power Substations in Portions of Southwestern Indiana (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: point shapefile shows power substations encountered during a field review of the 2 mile study band for the Evansville to Indianapolis I-69 Study. Some power substations are gas substations. Only stations encountered are included and it is very likely that the dataset is not complete even for the 2-mile wide band area. This file was updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: ELECTRIC POWERLINES – powerline locations developed by Cinergy Inc. (July 2001)
LAYER: POWERLINES_IGS_IN: Major Electricity Distribution Lines in Indiana (Indiana Geological Survey, 1:1,000,000, Line Shapefile)
DESCRIPTION: line shapefile depicts the location and extent of major electricity distribution lines in Indiana. ELECTRIC_LINES, the predecessor of POWERLINES_IGS_IN, was converted from a CAD file obtained from Cinergy. The CAD file had been used for plotting a statewide map, originally for the Indiana Electric Association (IEA), at a scale of 1:1,000,000. The original hard-copy IEA map was dated April 1, 1992, but the CAD file obtained from Cinergy was more recent. Apparently the file obtained from Cinergy included current data (as of July 2001) for the Cinergy lines and older data for other companies' lines.

SUBJECT: FAULT LINES – faults, clines, and anticlines developed by IGS
LAYER: STRUCTURAL_FEATURES_SW [IGS]: Structural Features of Southwestern Indiana (Indiana Geological Survey, Line Shapefile)
DESCRIPTION: line shapefile that shows the locations of known structural features (faults, clines, anticlines) in southwestern Indiana; source data scales range from 1:12,000 to 1:500000 (only one fault trace) with the majority being taken from sources with a scale of 1:63,360 or less detailed.

SUBJECT: FIRE DEPARTMENTS – fire department locations developed by FEMA and field checked by Bernardin, Lochmueller and Associates
LAYER: EMERGENCY_HAZUS_SW [IGS]: Emergency Facilities in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile)
DESCRIPTION: point shapefile that shows locations of emergency facilities in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). These facilities include fire departments, police departments, and civil defense offices. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: FLOODPLAIN – general locations of floodplains developed by Bernardin, Lochmueller and Associates
LAYER: FLOODPLAIN_SW [BLA]: Floodplains in Southwestern Indiana (Bernardin, Lochmueller and Associates, Polygon Shapefile)
DESCRIPTION: polygon shapefile showing the GENERAL Locations of floodplains in southwestern Indiana and if they are urban or rural. This data was digitized from "The Indiana Water Resource: Availability, Uses and Needs", Governor's Water Resource Study Commission (1980) and is only general. No storm events are recorded. FEMA Floodplain maps or digital Q3 files must be used to obtain more detailed floodplain positions and storm events.

SUBJECT: GAS AND OIL WELLS – gas and oil well locations developed by IGS (June 2002)
LAYER: GAS_OIL_WELLS_SW [IGS]: Petroleum Well Locations in Southwestern Indiana (Indiana Geological Survey, 1:24000, Point Shapefile)
DESCRIPTION: point shapefile showing locations of all known petroleum test wells in Indiana, as contained in the Indiana Geological Survey's Petroleum Database Management System (PDMS). For this data set, well symbol (status and type information) has been simplified into a five-class system (gas, gas storage, abandoned gas storage, oil, and all other petroleum test wells). More detailed well classification information is available from the IGS. This dataset is continuously updated, therefore, well information is only as current as the publication date of this data set, June 2002. Petroleum test wells (coded OPT) were excluded from Atlas maps and only known active and storage wells are included. This dataset was created from data in the Indiana Geological Survey Petroleum Well Database, which is a component of the IGS Petroleum Database Management System (PDMS). The PDMS database includes records obtained from the IGS petroleum well files. Well records were first obtained by W. S. Blatchley, State Geologist, beginning in 1896. A formal system of collecting petroleum well records and procedures for its maintenance were started in the early 1950s by Thomas A. Dawson, former Head of the IGS Petroleum Section. The IGS petroleum files represent the most comprehensive collection of petroleum-related well records in the state. The information contained in these records came from the following sources: the Indiana Division of Oil and Gas, records and plats from the Ohio Oil Company,and Indiana Geological Survey Publication 108 (William N. Logan, 1931, The subsurface strata of Indiana: Indiana Department of Conservation Publication 108, 790 p., 16 figs.)

SUBJECT: GRADE SEPARATION, EXISTING / POTENTIAL – potential and existing grade separations (overpasses/underpasses) created by Bernardin, Lochmueller and Associates
LAYER: GRADESEP_3C (Existing and Potential Grade Separations for I-69 Preferred Alternative 3C (Tier 1) in Southwestern Indiana, Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: shapefile depicts the location of Potential Grade Separations along I-69 Preferred Alternative 3C (Tier 1) as proposed by Bernardin-Lochmueller and Associates. A field defines all grade separations as existing or potential. A grade separation is defined as an overpass or underpass to the road. Whether the grade separation is an overpass or underpass is not designated in this layer. All grade separations, existing and potential, will be reviewed in later studies and may be modified.

SUBJECT: HISTORIC DISTRICTS, NATIONAL REGISTER – Districts within the I-69 2-mile APE listed on the National Register Historic Places; developed by Weintraut & Associates Historians (September 2003).
LAYER: HISTORIC_DISTRICTS_I69RTS: Historic Districts on the National Register in the I-69 2-mile APE, Derived from historic records and field windshield surveys (Weintraut & Associates Historians, Polygon Shapefile)
DESCRIPTION: point coverage that represents properties within the I-69 2-mile APE listed in the National Register of Historic Places or Indiana Register of Historic Places. File was created from historic records and field windshield surveys by Weintraut & Associates Historians.

SUBJECT: HISTORIC SITE/STRUCTURES, NATIONAL AND INDIANA REGISTER – Sites and structures within the I-69 2-mile APE listed on the National Register or Indiana State Register of Historic Places; developed by Weintraut & Associates Historians (September 2003).
LAYER: HISTORIC_REGISTER_I69RTS: Historic Structures on the National and Indiana State Registers in the I-69 2-mile APE, Derived from historic records and field windshield surveys (Weintraut & Associates Historians, Point Shapefile)
DESCRIPTION: polygon coverage that represents districts within the I-69 2-mile APE listed in the National Register of Historic Places. File was created from historic records and field windshield surveys by Weintraut & Associates Historians.

SUBJECT: HISTORIC RESOURCES, POTENTIALLY ELIGIBLE FOR NATIONAL REGISTER – Historic Resources identified by Weintraut & Associates Historians, Inc. as potentially eligible for the National Register of Historic Places (September 2003).
LAYER: HISTORIC_POTENTIAL_ELIGIBLE_I69RTS: Historic Resources potentially eligible for listing in the National Register of Historic Places (Weintraut & Associates Historians, Point Shapefile)
DESCRIPTION: point coverage that represents historic properties that met some minimum issues of base integrity defined by the National Historic Preservation Act and were identified as having the potential to be listed in the National Register of Historic Places. Historic properties were evaluated by Weintraut & Associates Historians, Inc., professional historians, during a windshield survey. Evaluations are general, and property boundaries cannot be determined from this data. More study is required to fully assess integrity, assign historical significance, and determine property boundaries. This layer represents only historic properties in the study band (2-mile APE) and may change with further research and as properties are altered or destroyed over time.

SUBJECT: HOMES – home (single and multiple family) locations developed by Bernardin, Lochmueller and Associates from field review
LAYER: BUSINESS_HOME_APPX_I69RTS (Business and Home locations in portions of Southwestern Indiana, Bernardin, Lochmueller and Associates, Scale 1:24,000, Point Shapefile)
DESCRIPTION: shapefile depicts the location of businesses and homes (single and multiple family) along proposed I-69 routes (Tier 1). The points were digitized from USGS 7.5' quadrangle DRG files and checked, attributed, and updated by field review. Data was collected within a 2-mile wide study band except in densely populated areas where it was collected within a 2000-foot study corridor. No data was collected along existing Interstates. This file is not to be used for an exact count of businesses and homes within an area, but only to give a near approximation of the density of businesses and homes located in an area.

SUBJECT: HOSPITALS / CLINICS – hospital and clinic locations developed by FEMA and field checked by Bernardin, Lochmueller and Associates
LAYER: HOSPITALS_HAZUS_SW [IGS]: Hospitals and Clinics in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile)
DESCRIPTION: point shapefile that shows locations of hospitals and clinics in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: INDUSTRIAL WASTE – active and future facilities involved in any generation, transportation, treatment, storage, and disposal of hazardous waste (January 2002).
LAYER: INDUSTRIAL_WASTE: Industrial Waste Compliance Locations in Indiana (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: Industrial Waste Compliance GPS Points locate the entrance to facilities that generate and/or manage hazardous waste, non-hazardous industrial waste, and solid waste. The majority of the points collected are Large Quantity Generators (LQGs). Treatment Storage and Disposal facilities (TSDs) are also being collected. Occasionally, a Small Quantity Generator (SQG) or Conditionally Exempt Small Quantity Generator (CESQG) GPS points may be collected if the location has significant environmental issues. Data is current to January 2002 but is still in development with locations being added.

SUBJECT: INTERCHANGES, EXISTING / POTENTIAL – all interchanges with the potential to be included in the alternative developed by Bernardin, Lochmueller and Associates
LAYER: INTERCHANGE_3C (Potential Interstate Interchanges for I-69 Preferred Alternative 3C (Tier 1) in Southwestern Indiana, Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: point shapefile depicts the potential location of Interstate Interchanges along I-69 Preferred Alternative 3C (Tier 1) as proposed by Bernardin-Lochmueller and Associates. The base file for this layer is the Indiana State Highway Model existing Interstate Interchanges. To this file, existing state and US highway interchanges and all potential interchanges for the I-69 Preferred Alternative 3C were added. A field was added defining all interchanges as existing or potential. Existing and potential interchanges for each alternative represent a "worse case scenario" from impacts, but interchange locations will be re-evaluated in later studies and modifications are expected.

SUBJECT: KARST DYE LINES / POINTS – dye trace investigations to detect underground stream connections developed by IGS
LAYER: (1) KARST_DYE_LINES_SW [IGS]: Inferred Connections for Selected Subsurface Dye Traces in Parts of South-Central Indiana (Indiana Geological Survey, 1:24000, Line Shapefile) (2) KARST_DYE_PTS_SW [IGS]: Input and Detection Points for Selected Subsurface Dye Traces in Parts of South-Central Indiana (Indiana Geological Survey, 1:24000, Point Shapefile)
DESCRIPTION: (1) line shapefile that shows inferred subsurface connections between input and detection points of various dye-trace investigations in parts of south-central Indiana, as depicted on Miscellaneous Map 66 of the Indiana Geological Survey. Dye-trace investigations are used to determine subsurface hydrologic connections between various karst-related features. (2) KARST_DYE_PTS_SW is a point shapefile that shows the locations of input and detection points that were used for selected subsurface dye-trace investigations in parts of south-central Indiana, as depicted on Miscellaneous Map 66 of the Indiana Geological Survey.

SUBJECT: LAKES AND PONDS – lakes and ponds developed by the National Wetland Inventory by USFWS and attributed by the National Hydrography Dataset from USGS/USEPA
LAYER: (1) WETLAND_NWI_PLY_[county] [BLA]: National Wetland Inventory Polygons by County in Southwestern Indiana (U.S. Fish & Wildlife Service, 1:24000, Polygon Shapefile) (2) HYDROGRAPHY_NHD_POLY [BLA]: Water Bodies in Southwestern Indiana, Derived from the National Hydrography Dataset (U. S. Geological Survey, Polygon Shapefile)
DESCRIPTION: (1) shapefiles showing national wetland inventory (NWI) wetlands by county in southwestern Indiana. NWI quadrangle digital data was merged to create county files. NWI digital data files are records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project. The purpose of this survey was not to map all wetlands and deepwater habitats of the United States, but rather to use aerial photointerpretation techniques to produce thematic maps that show, in most cases, the larger ones and types that can be identified by such techniques. The objective was to provide better geospatial information on wetlands than found on the U.S. Geological Survey topographic maps. It was not the intent of the NWI to produce maps that show exact wetland boundaries comparable to boundaries derived from ground surveys. Boundaries are therefore generalized in most cases. Consequently, the quality of the wetland data is variable mainly due to source photography, ease or difficulty of interpreting specific wetland types, and survey methods (e.g., level of field effort and state-of-the-art of wetland delineation). *Only wetlands with code attributes beginning with "R", "L", "PUB", "PUS", or "PAB" were included.* (2) polygon coverage showing the lakes, ponds, reservoirs, rivers, and swamps larger than 6 acres in southwestern Indiana. This data is a subset of the National Hydrography Dataset published as a joint effort by the USGS and USEPA. This layer was used for Name attributes only and is not shown.

SUBJECT: LANDFILLS, ACTIVE & PERMITTED SITES – landfills and permitted waste site locations developed by IDEM (January 2003).
LAYER: LANDFILLS_ACTIVE_&_PERMITTED_ SITES: Active Permitted Solid Waste Sites - Indiana (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: point shapefile showing the locations of Solid Waste Landfills, Permitted Incinerators, Construction Demolition Sites, Processing Facilities, Restricted Waste Sites, and Transfer Stations. It was created for IDEM using GPS and address matching techniques. The data table indicates the site name, owners, closing date, permitting, and other information. Data is current to January 2003.

SUBJECT: LANDFILLS_ABANDONED_&_OPEN_DUMPS – abandoned landfills and open dump locations developed by IDEM.
LAYER: LANDFILLS_ABANDONED_&_OPEN_DUMPS: Active Permitted Solid Waste Sites - Indiana (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: point shapefile showing the locations of abandoned and inactive landfills and open dumps. It was created for IDEM. The data table indicates the site name, data collection method, owners, address, permitting, public availability, and other information. Data is current to August 2001.

SUBJECT: MANAGED LANDS – areas of lands managed for recreation / conservation mostly by public agencies. Some areas potentially have 4(f) status. It was developed by IDNR Heritage Database and updated by Bernardin, Lochmueller and Associates from agency/organization files.
LAYER: (1) MANAGED_LANDS_SW [BLA]: Managed Lands in Southwestern Indiana (Bernardin, Lochmueller and Associates, Polygon Shapefile)
(2) CILTI_LAND_TRUST_SW [BLA]: Central Indiana Land Trust, Inc. Land Ownership in Southwestern Indiana (Bernardin, Lochmueller and Associates, Polygon Shapefile) (3) HOOSIER_NATL_FOREST [BLA]: Hoosier National Forest Ownership (Hoosier National Forest, Polygon Shapefile) (4) NATURE_CONSERVANCY_SW [BLA]: Nature Conservancy Lands in Southwestern Indiana (The Nature Conservancy, Polygon Shapefile) (5) PATOKA_REFUGE [BLA]: Patoka River National Wildlife Refuge & Management Area, Acquired Areas (U.S. Fish and Wildlife Service, 1:24000, Polygon Shapefile) (6) SYCAMORE_LAND_TRUST [BLA]: Sycamore Land Trust Land Ownership in Southwestern Indiana (Bernardin, Lochmueller and Associates, Polygon Shapefile)
DESCRIPTION: (1) MANAGED_LANDS_SW is a polygon shapefile containing the boundaries of federal, state, university, land-trust, and locally managed lands in southwestern Indiana. Private, citizen-owned lands such as those in the classified forest or classified wildlife programs are not included. Lands include natural areas, city parks, nature and wildlife preserves, and historic parks. Developed by the Indiana Department of Natural Resources, Heritage Database (1999). (2) polygon layer that shows the location of the four lands owned by the Central Indiana Land Trust (2000) in Southwestern Indiana. Lands owned by private land trusts are typically managed for natural areas with a focus on preservation and conservation. Some private land trust holdings become dedicated nature preserves that are protected by law. (3) developed by the Hoosier National Forest (2000) and shows the land owned by the U.S. Forest Service, and the acquirement boundary. (4) polygon shapefile developed by The Nature Conservancy (1999) of their managed lands. The Nature Conservancy is a private land trust and purchases land it feels is important to preserve communities, biodiversity, and species (5) polygon shapefile developed by the Patoka River National Wildlife Refuge (2003) representing areas owned by the refuge as federal lands and the legislatively approved acquirement boundary. Lands may be purchased and added to the refuge from within this boundary in the future. (6) polygon layer that shows the location of the four lands owned by the Sycamore Land Trust (2000) in southwestern Indiana. Lands owned by private land trusts are typically managed for natural areas with a focus on preservation and conservation. Some private land trust holdings become dedicated nature preserves that are protected by law. This collective managed lands file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: MINERAL FACILITIES – locations of mineral operations, deposits, and processing (cement, clay, shale, limestone, etc.) developed by IGS (1997) and USEPA (1995)
LAYER: (1) INDUSTRIAL_MINERALS_1997_SW [IGS]: Industrial Mineral Operations That Were Active in 1997 in Southwestern Indiana (Indiana Geological Survey, Point Shapefile) (2) MINERALS_EPA_SW [BLA]: U.S. Bureau of Mines Mineral Availability System/Mineral Industry Locations in Southwestern Indiana, Derived from EPA BASINS (Environmental Protection Agency, Point Shapefile)
DESCRIPTION: (1) point shapefile that shows the locations of industrial mineral operations that were active in 1997 in the southwestern 26 counties of Indiana. these operations extracted and (or) produced the following commodities: cement, clay and shale, crushed stone, dimension limestone, dimension sandstone, gypsum, and sand and gravel. This shapefile was derived from a database that was compiled by personnel of the Indiana Geological Survey. (2) point shapefile developed by EPA BASINS listing all known mining operations, mineral deposits or occurrences and processing plants. This file is current only to 1995 and is not updated since the closing of the U.S. Bureau of Mines. This file contains deposits and processing plants not represented in other coal resource files. This file should be viewed with consideration given to the more accurate COAL_MINE_ENTRIES_SW and other similar files for accurate coal mine locations. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.*

SUBJECT: PHYSIOGRAPHIC REGIONS – region of similar topography and land use developed by IGS.
LAYER: PHYSIOGRAPHY_SW [IGS]: Physiographic Regions of Southwestern Indiana (Indiana Geological Survey, 1:500000, Polygon Shapefile)
DESCRIPTION: polygon shapefile that shows the physiographic regions of southwestern Indiana. Detailed descriptions of these regions can be obtained from Indiana Geological Survey Special Report 61.

SUBJECT: PIPELINES – natural gas, crude, and refined oil pipelines developed by IGS (1988)
LAYER: PIPELINES_IGS_IN: Natural Gas, Crude Oil, and Refined Oil Pipelines in Indiana (Indiana Geological Survey, 1:63,360, Line Shapefile)
DESCRIPTION: shapefile depicts the location and extent of known natural gas, crude, and refined products pipelines in Indiana. This shapefile was digitized from data shown on 1:63,360 scale (1 inch = 1 mile) county work maps compiled for the creation of IGS Miscellaneous Map 58, Map of Indiana Showing Oil, Gas, and Products Pipelines, by Stanley Keller, 1991. Data is current to 1988.

SUBJECT: PITS AND QUARRIES, MISCELLANEOUS – locations of active or inactive pits (sand, gravel, clay, shale) and quarries developed by Bernardin, Lochmueller and Associates from USGS 7.5' Quadrangle maps.
LAYER: PITS_MISC_USGS_I69RTS (Miscellaneous Pits and Quarries (sand, gravel, clay, shale) in portions of Southwestern Indiana, Bernardin, Lochmueller and Associates, Scale 1:24,000, Point Shapefile)
DESCRIPTION: shapefile depicts the location of sand, gravel, clay, and shale pits; and quarries in portions of Southwestern Indiana. The points were digitized from USGS 7.5' quadrangle DRG files. Only pits and quarries that were labeled on quadrangles intersecting the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1) were included in the dataset. To be used with the Mineral Facilities layer.

SUBJECT: PLAINVILLE SAND DUNE REGION – area near Washington, IN containing remnants of sand dunes with savanna and prairie-like vegetation and ephemeral wetlands with Atlantic coastal plants.
LAYER: Plainville Sand Dune Region (Plainville Sand Dune Region in Southwestern Indiana, Bernardin, Lochmueller and Associates, Scale 1:24,000, Polygon Shapefile)
DESCRIPTION: polygon shapefile was created from an area marked by IDNR on a USGS 7.5' topographic map located west/northwest of Washington, IN. Plainville sand dune region is an extremely significant ecological area consisting of wind deposited sand dunes that formerly supported a complex mosaic of dry, savanna and prairie-like vegetation. Ephemeral wetlands contain rare disjunct plant species of coastal Atlantic origins. Despite almost complete conversion to agriculture, numerous small remnants remain which are usually characterized by state listed plant species and other species of ecological interest. The area adds significantly to the state's natural diversity.

SUBJECT: POINTS OF INTEREST – miscellaneous points including orchards, hills, ridges, hollows, raceways, etc. developed by Bernardin, Lochmueller and Associates from USGS 7.5' Quadrangle Maps
LAYER: PTS_INTEREST_I69RTS (Miscellaneous points of interest in portions of Southwestern Indiana, Bernardin, Lochmueller and Associates, Scale 1:24,000, Point Shapefile)
DESCRIPTION: shapefile depicts the location of various points of interest in portions of Southwestern Indiana. Examples of points of interest are named ridges, hills, raceways, farms, or other notable miscellaneous feature. The points were digitized from USGS 7.5' quadrangle DRG files. Only features that were labeled on quadrangles intersecting the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1) were included in the dataset. This data appears as text labels only, the points are not shown.

SUBJECT: POLICE DEPARTMENTS - police department locations developed by FEMA and field checked by Bernardin, Lochmueller and Associates
LAYER: EMERGENCY_HAZUS_SW [IGS]: Emergency Facilities in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile)
DESCRIPTION: point shapefile that shows locations of emergency facilities in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). These facilities include fire departments, police departments, and civil defense offices. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: POPULATED AREAS - general boundary and/or place name where there is some density of residential development
LAYER: (1) CITY_AREAS_ESRI_SW [BLA]: City Areas in Southwestern Indiana (ESRI, 1:1000000, Polygon Shapefile) (2) POPULATED_POINTS_TIGER00: Populated Place Point Locations in Indiana, Derived from TIGER 2000 (US Bureau of Census, Point Shapefile)
DESCRIPTION: (1) polygon coverage showing the extent of cities areas in southwestern Indiana. *It is a subset of a national database and is not expected to be complete and comprehensive*. Population and other statistics are from the 1990 Census. City areas may not accurately reflect legal city limits. (2) point shapefile developed by from TIGER 2000 files showing all populated place names.

SUBJECT: QUARRIES, ABANDONED – locations of abandoned quarries developed by IGS (1998)
LAYER: QUARRIES_ABANDONED_SW [IGS]: Abandoned Quarries in Southwestern Indiana (Indiana Geological Survey, Point Shapefile)
DESCRIPTION: derived from a published database of abandoned industrial minerals quarries documented in Indiana Geological Survey (IGS) files. The database is named "Database of Abandoned Industrial Minerals Quarries in Indiana.txt." Descriptions of database variables and content are included in an associated paper report of the IGS. QUARRIES_ABANDONED_SW includes the 26 southwestern counties of Indiana.

SUBJECT: RAILROADS – locations of railroad lines developed in the National Transportation Atlas Database 2000
LAYER: RAILROAD_NTAD_100K_SW [BLA]: Railroad Network in Southwestern Indiana (Bureau of Transportation Statistics, 1:100000, Line Shapefile)
DESCRIPTION: line shapefile that is a subset of the National Transportation Atlas Databases 2000. The shapefile shows the railroad network in southwestern Indiana. Few railroads may now be abandoned. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy.*

SUBJECT: RECREATION AREAS – recreation areas (some may be 4F) including parks, schools, golf course etc. developed by IDNR Division of Outdoor Recreation (August 2003)
LAYER: RECREATION_IDNR_SW [BLA]: Public Recreation Facilities in Southwestern Indiana (Indiana Department of Natural Resources, Point Shapefile)
DESCRIPTION: point shapefile of sites that offer facilities for public recreation. Attributes include facility details, public funding, and management. Examples of sites are parks, school playgrounds, golf courses, zoos, natural areas, etc. Developed by the Indiana Department of Natural Resources, Division of Outdoor Recreation, using GPS methodologies. This file is being updated by IDNR on an ongoing basis. This file has been updated by Bernardin, Lochmueller and Associates from Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1). Data is current to August 2003

SUBJECT: ROADS – Interstates, US highways, and State Highways from the Indiana State Highway Model (INDOT) and all roads including county and local developed from the USCB TIGER data.
LAYER: (1) HIGHWAYS_INDOTMODEL_SW [BLA]: Highways in Southwestern Indiana (Indiana Department of Transportation, Line Shapefile) (2) ROADS_TIGER00_[county] [BLA]: Roads in Southwestern Indiana 26 counties, Derived from TIGER/Line Files, Redistricting Census 2000 (Bureau of the Census, Line Shapefile)
DESCRIPTION: (1) line shapefile that is a subset of the I-69 Model Network. The shapefile shows Interstate Highways, US Highways, and State Highways in southwestern Indiana. Some updates were made based on aerial photographs. (2) 26 line shapefiles of the detailed roads in the southwestern 26 counties of Indiana. Each county file in part of the TIGER 2000 dataset and was placed into shapefile format and reprojected by Bernardin-Lochmueller and Associates. Road files are labeled, but lines are not shown.

SUBJECT: SAND AND GRAVEL PITS, ABANDONED – abandoned sand and gravel pits developed by IGS (1993)
LAYER: SAND_GRAVEL_PITS_ABANDONED_SW [IGS]: Abandoned Sand and Gravel Pits in Southwestern Indiana (Indiana Geological Survey, Point Shapefile)
DESCRIPTION: point shapefile that shows the locations of abandoned sand and gravel pits in the southwestern 26 counties of Indiana. It was derived from a statewide database.

SUBJECT: SCHOOLS – public and private schools (pre-school, elementary, middle, high) (1) developed by FEMA (1999) and (2) extracted from IDNR Division of Outdoor Recreation, recreation sites (August 2003)
LAYER: (1) SCHOOLS_HAZUS_SW [IGS]: Schools in Southwestern Indiana, Derived from HAZUS (Federal Emergency Management Agency, Point Shapefile) (2) RECREATION_IDNR_SW [BLA]: Public Recreation Facilities in Southwestern Indiana (Indiana Department of Natural Resources, Point Shapefile)
DESCRIPTION: (1) point shapefile that shows locations of schools in southwestern Indiana, as derived from a product of the program referred to as "HAZUS, The FEMA Tool for Estimating Earthquake Losses," produced by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive.* (2) point shapefile of elementary, middle and secondary schools that offer facilities for public recreation such as playgrounds, ball fields, or courts. Data is current to August 2003. Attributes include facility details, public funding, and management. This file does not include schools that do not allow public access to facilities. Developed by the Indiana Department of Natural Resources, Division of Outdoor Recreation, using GPS methodologies. This file may be used in conjunction with the file SCHOOLS_HAZUS_SW. SCHOOLS_REC_IDNR_SW points have better horizontal accuracy and are significantly better in spatial location at a large scale; however, SCHOOLS_HAZUS_SW may be more complete and is appropriate for use at small scales. Users should exercise caution in determining which of these files is more appropriate for specific uses. These files have been updated from field reviews of the 2-mile wide study bands. They were also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1). Both files are shown as schools on Atlas map sheets.

SUBJECT: SINKHOLE AREAS / SINKING STREAM BASINS – sinking areas in karst geology developed by IGS
LAYER: KARST_MM65_SW [IGS]: Sinkhole Areas and Sinking-Stream Basins in Parts of South-Central Indiana (Indiana Geological Survey, 1:126720, Polygon Shapefile)
DESCRIPTION: polygon shapefile that shows sinkhole areas and sinking-stream basins associated with rocks of Silurian, Devonian, and Mississippian age in parts of south-central Indiana, as depicted on Miscellaneous Map 65 of the Indiana Geological Survey. Sinkhole areas and sinking-stream basins are karst-related features that have unique hydrologic characteristics.

SUBJECT: SPRINGS / SEEPS – springs and seeps developed by IGS and extracted from the National Hydrography Dataset by the USGS/USEPA
LAYER: (1) KARST_SPRINGS_MM65_SW [IGS]: Springs in Parts of South-Central Indiana (Indiana Geological Survey, 1:126720, Point Shapefile) (2) HYDROGRAPHY_NHD_POINTS [BLA]: Gages, Lock Chambers, Springs, Waterfalls, and Wells in Southwestern Indiana, Derived from the National Hydrography Dataset (U. S. Geological Survey, Point Shapefile)
DESCRIPTION: (1) KARST_SPRINGS_SW is a point shapefile that shows the locations of springs in and around the karst region of parts of south-central Indiana, as depicted on Miscellaneous Map 65 of the Indiana Geological Survey. (2) point coverage containing the gages, lock chambers, springs, waterfalls, and wells in southwestern Indiana. Queries were used to isolate only springs and waterfalls to be shown. This data is a subset of the National Hydrography Dataset published as a joint effort by the USGS and USEPA. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive*

SUBJECT: STATE CLEANUP, COMMISSIONERS BULLETIN – state cleanup sites listed on the Commissioners Bulletin for hazardous contaminants, developed by IDEM
LAYER: STATE_CLEANUP_COMMISSIONER_BULLETIN: Indiana State Cleanup Sites on the Commissioner's Bulletin (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: point shapefile of state cleanup sites listed on the Commissioners Bulletin. GPS locational information was gathered by Permit Managers of the State Cleanup & RCRA Section, Office of Land Quality, Indiana Department of Environmental Management. This data set mainly contains the location of access points to managed sites, along with a unique identifier for each location as well as address, site type, status, contaminant, and score/date information. Data is current to January 2002, but is still in development.

SUBJECT: STREAMS – rivers, streams, canals, and ditches from the National Wetland Inventory (USFWS) and attributed by the National Hydrography Dataset (USGS/USEPA)
LAYER: (1) WETLAND_NWI_LN_[county] [BLA]: National Wetland Inventory Lines by County in Southwestern Indiana (U.S. Fish & Wildlife Service, 1:24000, Line Shapefile) (2) HYDROGRAPHY_NHD_LINE [BLA]: Streams, Rivers, Canals, and Ditches in Southwestern Indiana, Derived from the National Hydrography Dataset (U. S. Geological Survey, Line Shapefile)
DESCRIPTION: (1) shapefiles showing national wetland inventory (NWI) wetlands by county in southwestern Indiana. NWI quadrangle digital data was merged to create county files. NWI digital data files are records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project. The purpose of this survey was not to map all wetlands and deepwater habitats of the United States, but rather to use aerial photointerpretation techniques to produce thematic maps that show, in most cases, the larger ones and types that can be identified by such techniques. The objective was to provide better geospatial information on wetlands than found on the U.S. Geological Survey topographic maps. It was not the intent of the NWI to produce maps that show exact wetland boundaries comparable to boundaries derived from ground surveys. Boundaries are therefore generalized in most cases. Consequently, the quality of the wetland data is variable mainly due to source photography, ease or difficulty of interpreting specific wetland types, and survey methods (e.g., level of field effort and state-of-the-art of wetland delineation). *Only wetlands with attributes beginning with "R", "L", "PUB", "PUS", or "PAB" were included.* (2) line coverage showing the streams, rivers, canals, and ditches in southwestern Indiana. This data is a subset of the National Hydrography Dataset published as a joint effort by the USGS and USEPA. This shapefile should be viewed with two additional shapefiles. This layer was used only to label with its Name attribute. Some name attributes were added from USGS DRG 7.5' Quadrangles.

SUBJECT: SUBDIVISIONS – subdivisions developed on new ground after 1998-99 developed by Bernardin, Lochmueller and Associates from field review
LAYER: SUBDIVISION_LG_I69RTS (Large subdivisions after 1998-99 in portions of Southwestern Indiana, Bernardin, Lochmueller and Associates, Polygon Shapefile)
DESCRIPTION: shapefile depicts the location of large subdivisions that were developed after project aerial photograph dates (1998-99). These polygons were digitized from working field review maps onto aerial photographs and USGS 7.5 minute DRGs. It provides the only data that shows where farm fields have recently been developed. Only areas in or near the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1) were included in the dataset.

SUBJECT: SUPERFUND SITES – uncontrolled or abandoned sites with hazardous waste listed as Superfund or on the National Priority List (January 2003)
LAYER: SUPERFUND: Superfund Sites regulated by CERCLA (Indiana Department of Environmental Protection, Point Shapefile)
DESCRIPTION: Point representing hazardous waste sites listed on the National Priorities List. Data is current for January 2003.

SUBJECT: TOWERS – cellular, radio, television, communication towers developed by the FCC (July 2001)
LAYER: TOWERS_FCC_SW [BLA]: Towers in Southwestern Indiana, Derived from the FCC (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: Cellular towers listed in data tables on the FCC website. Data is current to July 2001. This FCC dataset is continually updated.

SUBJECT: TRAILER HOME PARK – trailer home park locations developed by Bernardin, Lochmueller and Associates from field review
LAYER: TRAILER_APPX_I69RTS (Trailer Home Parks in portions of Southwestern Indiana, Bernardin, Lochmueller and Associates, Scale 1:24,000, Point Shapefile)
DESCRIPTION: shapefile depicts the location of trailer home parks in portions of Southwestern Indiana. The points were digitized from USGS 7.5' quadrangle DRG files. Only features that were labeled on quadrangles intersecting the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1) were included in the dataset. Some locations were verified or added from field review.

SUBJECT: TRAILS – recreation trails developed by IDNR Division of Outdoor Recreation (March 2002)
LAYER: TRAILS_IDNR_SW [BLA]: Trails for Recreation in Southwestern Indiana (Indiana Department of Natural Resources, Line Shapefile)
DESCRIPTION: line shapefile of off-road trails for public recreation. The trails are generally located in parks and natural areas. Attributes include the trail name, surface, and allowable activities. Only trails submitted by park or recreation authorities are included in this shapefile; therefore, it is expected that some existing trails may be missing. The minimum mapping unit was 0.5 miles. Developed by the Indiana Department of Natural Resources, Division of Outdoor Recreation, using GPS methodologies. Data is current to March 2002.

SUBJECT: TREES, BIG TREE CHAMPIONS – Indiana big tree champions developed by Bernardin, Lochmueller and Associates from IDNR Forestry Division data (2000)
LAYER: TREES_BIG_SW [BLA]: Big Tree Champions in Southwestern Indiana (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: point shapefile showing the locations of state champion trees in the southwestern 26 counties of Indiana. Each native tree is the largest individual of its species found in the state. Only the Bur Oak in Posey County is omitted due to an inability to find a precise location. These locations are based on detailed records of the Indiana Big Tree Register 2000 and were placed using USGS quads, Aerial photos, streets, hydrology, and town layers for reference. Database includes tree measurements.

SUBJECT: TOXIC RELEASE INVENTORY SITES – sites where toxic chemicals are released to the air, water, or land developed by USEPA and partially field checked by Bernardin, Lochmueller and Associates.
LAYER: TRI_EPA_SW [BLA]: Toxic Release Inventory Facilities (TRI) in Southwestern Indiana, Derived from EPA BASINS (Environmental Protection Agency, Point Shapefile)
DESCRIPTION: point shapefile with data on annual estimated releases of over 300 toxic chemicals to air, water, and land by the manufacturing industry. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy.* This file has been updated where possible using tabular address information and field review within the 2-mile wide study band.

SUBJECT: UNDERGROUND STORAGE TANKS (UST) – underground storage tank locations developed by IDEM and updated and field checked by Bernardin, Lochmueller and Associates. USTs are typically found at gasoline stations, fleet fueling facilities, and industrial sites (January 2003).
LAYER: (1) UST_IDEM_IN: Underground Storage Tanks in Indiana (Indiana Department of Environmental Management, Point Shapefile) (2) UST_FIELD: UST Locations Collected in the Field (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: (1) point shapefile that contains all underground storage tank locations in Indiana. Many underground storage tanks are located at businesses providing gasoline and diesel. The Underground Storage Tank (UST) program is responsible for registering all regulated underground storage tanks and assures that all regulated underground storage tanks meet Indiana's requirements for release detection, spill and overflow prevention and corrosion protection, and to insure that tanks not meeting those requirements are properly closed. The UST program also assures that these protection systems are operated and maintained properly. Regulated underground storage tanks are those USTs that have 10% or more of the tank and piping buried beneath the ground and contain a regulated substance, which includes either petroleum products or hazardous substances. Data is current to January 2003. (2) point shapefile showing the locations of USTs collected in field review by Bernardin, Lochmueller and Associates. It is possible the a few sites may duplicate the IDEM data above.

SUBJECT: UNDERGROUND STORAGE TANKS (UST), LEAKING – leaking underground storage tank locations developed by IDEM (January 2003)
LAYER: LUST_IDEM_SW: Leaking Underground Storage Tanks in Southwestern Indiana (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: point shapefile showing the locations of leaking underground storage tanks (UST). It was created for IDEM using GPS and address matching techniques. Regulated underground storage tanks (USTs) contain regulated substances including petroleum and hazardous substances such as those typically found at gasoline stations, fleet fueling facilities, and industrial sites. If a release from a UST system is suspected or confirmed, the owner and operator must report it to IDEM, stop any on-going release, investigate to determine the type and extent of contamination, and conduct cleanup actions as necessary. These sites are called Leaking USTs. The actions must be taken as described in the UST rules - 329 IAC 9-4 and 5. Some LUSTs overlap the UST point layer. Data is current to January 2003.

SUBJECT: VOLUNTARY REMEDIATION PROGRAM – locations of hazardous waste sites being cleaned up in the Voluntary Remediation Program, developed by IDEM
LAYER: VRP_SITES: Voluntary Remediation Program Sites (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: points showing the locations of hazardous waste sites being cleaned up in the Voluntary Remediation Program. Locational information was collected by staff of the Voluntary Remediation Program section, Office of land Quality, Indiana Department of Environmental Management, using mapping-grade GPS equipment. Data is current to January 2002, but is still in development and being updated.

SUBJECT: WETLANDS – emergent, forested, and scrub-shrub wetlands developed by the National Wetland Inventory (USFWS). These wetlands may or may not be jurisdictional wetlands.
LAYER: (1) WETLAND_NWI_LN_[county] [BLA]: National Wetland Inventory Lines by County in Southwestern Indiana (U.S. Fish & Wildlife Service, 1:24000, Line Shapefile) (2) WETLAND_NWI_PLY_[county] [BLA]: National Wetland Inventory Polygons by County in Southwestern Indiana (U.S. Fish & Wildlife Service, 1:24000, Polygon Shapefile) (3) WETLAND_NWI_PT_[county] [BLA]: National Wetland Inventory Point Locations by County in Southwestern Indiana (U.S. Fish & Wildlife Service, 1:24000, Point Shapefile)
DESCRIPTION: shapefiles showing national wetland inventory (NWI) wetlands by county in southwestern Indiana. NWI quadrangle digital data was merged to create county files. NWI digital data files are records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project. The purpose of this survey was not to map all wetlands and deepwater habitats of the United States, but rather to use aerial photointerpretation techniques to produce thematic maps that show, in most cases, the larger ones and types that can be identified by such techniques. The objective was to provide better geospatial information on wetlands than found on the U.S. Geological Survey topographic maps. It was not the intent of the NWI to produce maps that show exact wetland boundaries comparable to boundaries derived from ground surveys. Boundaries are therefore generalized in most cases. Consequently, the quality of the wetland data is variable mainly due to source photography, ease or difficulty of interpreting specific wetland types, and survey methods (e.g., level of field effort and state-of-the-art of wetland delineation). *Only wetlands with attributes beginning with "PEM, PFO, or PSS" were included. NWI wetlands may or may not be jurisdictional wetlands.*

Layers Represented Only in Atlas Route Maps

SUBJECT: CAVE DENSITIES (caves/sq km) – cave areas developed by IGS
LAYER: KARST_CAVE_DENSITY_SW [IGS]: Number of Mapped Cave Entrances per Square Kilometer in Parts of South-Central Indiana (Indiana Geological Survey, Polygon Shapefile)
DESCRIPTION: polygon shapefile that shows the density of mapped cave entrances in Silurian, Devonian, and Mississippian rocks in parts of south-central Indiana. It is derived from a coverage that was used in the production of Miscellaneous Map 65 of the Indiana Geological Survey. The values have units of "number of cave entrances per square kilometer." Locations of individual cave entrances are not shown, nor are extents of caverns.

SUBJECT: FARMLAND LANDUSE – areas used for farmland (row crop, small grain, pasture) developed by USGS (1992)
LAYER: LNDCV_USGS_SW: Land Cover in Southwestern Indiana, Derived from the USGS (United States Geological Survey, Grid)
DESCRIPTION: 30-m grid showing land cover data in the southwestern 26 counties of Indiana. This grid is a subset of the National Land Cover Data (NLCD) set. There are eighteen categories of land use shown in this data set. The grid was created using remote sensing photointerpretation techniques on multiple season dates of Landsat TM 30-m satellite photography with a nominal date 1992 along with ancillary data sets such as NWI, Soils, and Census Population to aid interpretation. Accuracy assessment of the dataset is still pending. Data creation methods and class definitions are discussed in detail in the metadata.

SUBJECT: FORESTLAND LANDUSE – areas covered by forestland (deciduous, evergreen, mixed) developed by USGS (1992)
LAYER: LNDCV_USGS_SW: Land Cover in Southwestern Indiana, Derived from the USGS (United States Geological Survey, Grid)
DESCRIPTION: 30-m grid showing land cover data in the southwestern 26 counties of Indiana. This grid is a subset of the National Land Cover Data (NLCD) set. There are eighteen categories of land use shown in this data set. The grid was created using remote sensing photointerpretation techniques on multiple season dates of Landsat TM 30-m satellite photography with a nominal date 1992 along with ancillary data sets such as NWI, Soils, and Census Population to aid interpretation. Accuracy assessment of the dataset is still pending. Data creation methods and class definitions are discussed in detail in the metadata.

SUBJECT: LOW INCOME POPULATION – population percentage of census tracts that is low income; developed Bernardin, Lochmueller and Associates from US Census Bureau 2000 data.
LAYER: LOW_INCOME_2000_SW: Low Income Percentages in Census Tracts, Derived from the US Census Bureau (US Census Bureau, Polygon)
DESCRIPTION: polygon shapefile showing the percentage of a census block group population that is considered "low income". All age groups are summarized in the total percentage. Base data for the file is from the US Census Bureau 2000 data.

SUBJECT: MINORITY POPULATION – population percentage of census tracts that is minority; developed Bernardin, Lochmueller and Associates from US Census Bureau 2000 data.
LAYER: MINORITIES_2000_SW: Minority Percentages in Census Tracts, Derived from the US Census Bureau (US Census Bureau, Polygon)
DESCRIPTION: polygon shapefile showing the percentage of a census block group population that is considered "minority". Total percentage is a summary of the individual percentages of Blacks, Hispanics, Asian, American Indian/Alaskan Native, and Hawaiian/Pacific Ilander. Base data for the file is from the US Census Bureau 2000 data.

SUBJECT: NATURAL REGIONS – natural regions developed by IDNR Heritage Database
LAYER: NATURAL_REGIONS_SW: Natural Regions in Southwestern Indiana (Indiana Department of Natural Resources, 1:800,000, Polygon Shapefile)
DESCRIPTION: polygon shapefile shows the location of natural regions and subregions in Southwestern Indiana. It was digitized by personnel at the IDNR Heritage Database from the hardcopy map by Mike A Homoya, IDNR, produced in 1985 and reprinted in 1990.

SUBJECT: PRIME FARMLAND - percentages of prime farmland developed by Bernardin, Lochmueller and Associates from NRCS data
LAYER: SOILS_STATSGO_SW [BLA]: State Soil Geographic (STATSGO) Database for Southwestern Indiana (U.S. Dept. of Agriculture, 1:250,000, Polygon Shapefile)
DESCRIPTION: This 1994 data set is a digital general soil association map developed by the National Cooperative Soil Survey. It consists of a broad based inventory of soils and nonsoil areas that occur in a repeatable pattern on the landscape and that can be cartographically shown at the scale mapped. The soil maps for STATSGO are compiled by generalizing more detailed soil survey maps. The associated soil component table was used to sum up all the soil components within an association map unit that were listed as prime farmland (all codes including conditional (>=1)). The sum of those component percentages of an association was then joined to the association shapefile table for map representation.

SUBJECT: THREATENED AND ENDANGERED SPECIES – sitings of Federal and State Listed species of animals, plants, and communities from late 1800s to July 2003
LAYER: TE_SPECIES_IDNR_SW [BLA]: Threatened or Endangered Animals, Plants, or Communities in Southwestern Indiana, Derived from the Heritage Database (Indiana Department of Natural Resources, Point Shapefile)
DESCRIPTION: point shapefile showing the locations where federal or state listed animals, plants, or communities have been observed. Observations are recorded from 1872 to July 2003 for insects, invertebrates, birds, reptiles, amphibians, mammals, fish, plants, natural communities, etc. Attributes include the common and scientific name as well as the current ranking. Communities are High Quality and DO NOT represent federal critical habitat.

Layers Represented Only in Atlas Map Comments (not shown)

SUBJECT: MUSSELS – stream stretches studied for mussel beds and scored by IDNR developed by IDEM
LAYER: MUSSELS [BLA]: Mussel Bed Diversity and Occurrence in Southwestern Indiana (Bernardin, Lochmueller and Associates, Line Shapefile)
DESCRIPTION: line shapefile of streams that have been studied for mussels by the Indiana Department of Natural Resources and given a score based on abundance and species diversity.

SUBJECT: NATIONAL NATURAL LANDMARKS – public and private areas noted by the National Park Service as some best examples of biotic communities or geologic features. It was developed by Bernardin, Lochmueller and Associates from NPS information.
LAYER: NATL_NATURAL_LNDMRKS_SW [BLA]: National Natural Landmarks in Southwestern Indiana (Bernardin, Lochmueller and Associates, 1:24000, Polygon Shapefile)
DESCRIPTION: polygon shapefile that contains all National Natural Landmarks in the southwestern 26 counties in Indiana. To be nationally significant, a site must be one of the best examples of a type of biotic community or geologic features in its physiographic province. Information regarding landmark significance, ownership, management, area, location, and concerns is included in the attributes. Many landmark areas are privately owned and are not open to the public. Data was created by digitizing landmark boundaries on digital USGS quads. Boundaries were created by visual estimation from hardcopy USGS quads provided by NPS.

SUBJECT: NATURAL AREA REGISTRY – areas significant to species and/or communities, developed by IDNR, Heritage Database
LAYER: NATURAL_REGISTERY_SW: Natural Registry Areas in Southwestern Indiana (Indiana Department of Natural Resources, Polygon Shapefile)
DESCRIPTION: polygon areas showing the boundaries of properties entered in the natural registry. Many areas are also contained in managed area layers. Protection of natural resource areas by landowners is promoted through the Natural Areas Registry. The Nature Conservancy, in cooperation with the DNR Division of Nature Preserves, created the registry in 1980 as an alternative to land acquisition for the preservation of natural areas and rare species. From rare species and natural community data provided by the Division of Nature Preserves, The Nature Conservancy's Registry director informs private landowners about their property's significance. Landowners can then enter into a non-binding voluntary agreement with the Conservancy to protect natural resource areas. The Nature Conservancy asks permission to visit the registered area once a year to evaluate any changes over the last year and determine whether any new threats to the area have arisen.

SUBJECT: OUTSTANDING / NOTABLE STRUCTURES – outstanding / notable structures surveyed in the Indiana Historic Sites and Structures Inventory program; developed by Bernardin, Lochmueller and Associates from Indiana Landmark Foundation county interim report publications.
LAYER: (1) HISTORIC_SURVEY_I69RTS [BLA]: Outstanding and Notable Structures in portions of Southwestern Indiana (Bernardin, Lochmueller and Associates, Point Shapefile) (2) HISTORIC_SURVEY_DISTRICTS_I69RTS [BLA]: Outstanding and Notable Historic Districts in portions of Southwestern Indiana (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTONS: Both layers were developed by Bernardin-Lochmueller and Associates from the hardcopy county interim reports published largely by the Historic Landmark Foundation of Indiana as part of the Indiana Historic Sites and Structures Inventory (IHSSI) program. The county interim reports were published between 1982 and 2001(see metadata for specific county dates). Two counties, Martin and Pike, have no interim reports, and therefore no data was collected. Layer development is complete only within 1500 feet of the 2-mile wide study band (1.25 miles from conceptual working alignment) of the Evansville to Indianapolis I-69 Study, Tier 1. Sites outside this band are included only incidentally when encountered. An Outstanding site is property that has enough historic or architectural significance that it is already listed, or should be considered for individual listing, in the National Register of Historic Places. A Notable site is property that did not quite merit an "Outstanding" rating, but still is above average in its importance. Further research or investigation may reveal that the property could be eligible for National Register listing. The property may be eligible for the Indiana Register of Historic Sites and Structures. This layer should be viewed with Historic Sites/Structures Potentially Eligible for National Register. Some outstanding and notable structures have been evaluated as being potentially eligible.

SUBJECT: PUBLIC DRINKING WATER SUPPLY SITES – surface and underground public water supplies developed by the USEPA
LAYER: DRINKING_WATER_EPA_SW [BLA]: Drinking Water Supply Sites from Public Water Systems in Southwestern Indiana, Derived from USEPA BASINS (Environmental Protection Agency, Point Shapefile)
DESCRIPTION: point shapefile developed by the EPA BASINS that contains general and technical information on surface and groundwater supplies compliance with water quality regulations. Includes surface water intakes as well as filtration and treatment plants. *This national-scale dataset is intended for small-scale mapping (state level). Mapping on larger scales results in some positional inaccuracy. It is not expected to be complete and comprehensive*

SUBJECT: PUBLIC WATER SUPPLY WELLS – well sites located by GPS (not all existing wells) developed by IDEM
LAYER: WATERSUPPLY_PUBLIC_GPS_SW: Public Water-Supply Wells with GPS Locations (Indiana Department of Environmental Management, Point Shapefile)
DESCRIPTION: point shapefile that shows the locations of public water-supply wells in Indiana. The data contains only those water wells whose locations have been determined by using global positioning system (GPS) instruments in the field. The GPS survey of water-well locations is ongoing, and the percentage of total water-well locations that is represented by this database is unknown. Data is current to October 2001.

SUBJECT: RIVERS, DESIGNATED – rivers listed for some beneficial quality by various agencies. This includes no federally designated Wild and Scenic Rivers.
LAYER: RIVERS_DESIGNATED [BLA]: Designated Rivers in Southwestern Indiana (Bernardin, Lochmueller and Associates, Line Shapefile)
DESCRIPTION: line shapefile that shows the rivers with a special designation from a federal or state agency. Those lists considered were: National Park Service Nationwide Rivers Inventory, Indiana Waters Designated for Special Protection (IDEM), State Natural and Scenic River Segments in Indiana (IDNR), and the Natural Resources Commission Outstanding Rivers List for Indiana.

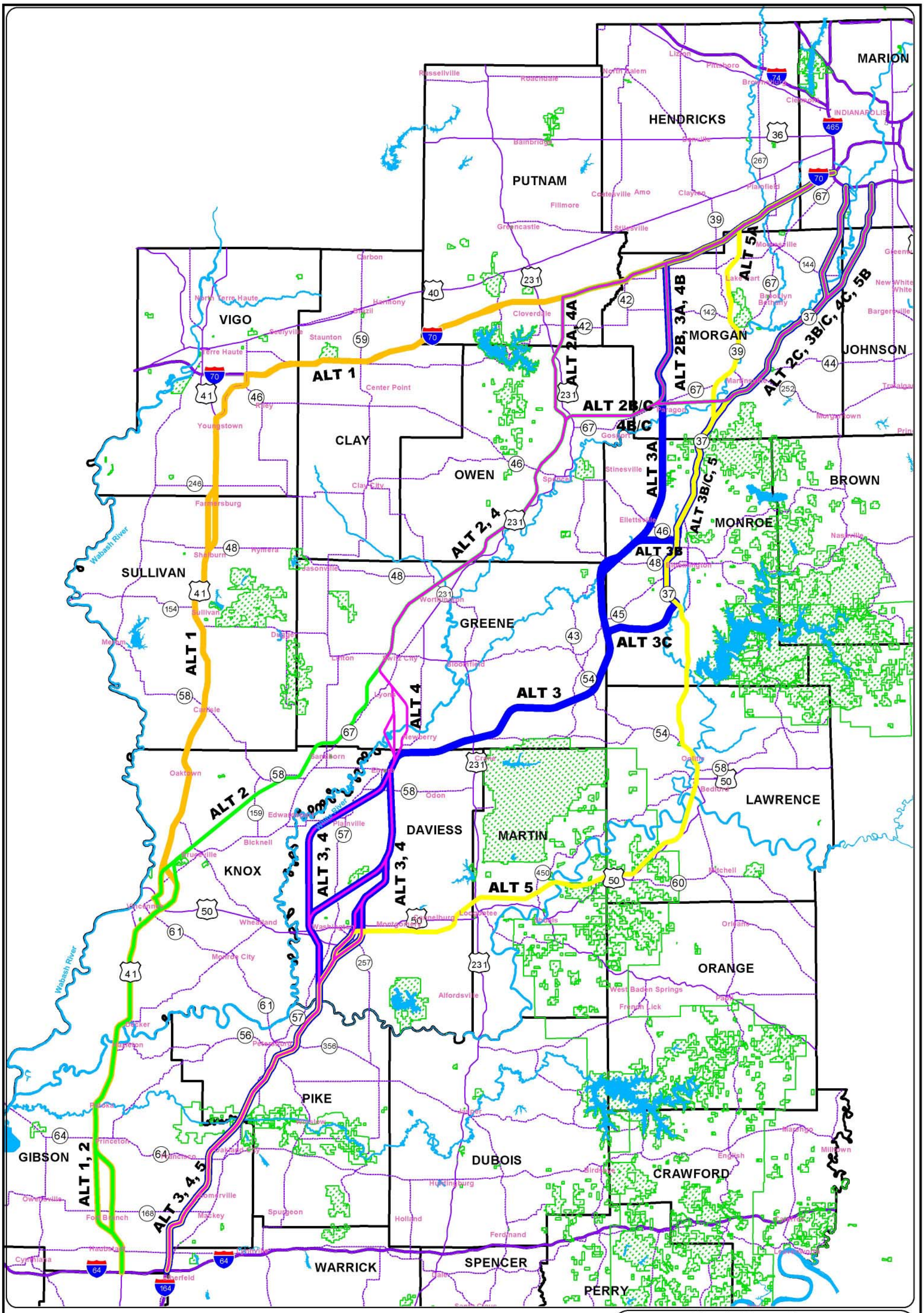
SUBJECT: SCENIC BYWAY ROADS – road stretches designated scenic (federal, state, proposed) developed by Bernardin, Lochmueller and Associates from NPS data
LAYER: ROADS_SCENIC_BYWAYS_SW [BLA]: National and State Scenic Byways in Southwestern Indiana (Bernardin, Lochmueller and Associates, Line Shapefile)
DESCRIPTION: line shapefile showing the locations of national and state scenic byway roadways. Some routes are still in proposal stages and some routes are made up of several roadways. ROADS_SCENIC_BYWAYS_SW is intended for use in planning and reporting on transportation development in southwestern Indiana. Data was compiled from information provided by the National Park Service and published on the web at www.byways.org. Base road data used was Caliper '98 roads file.

SUBJECT: STREAMS, IMPAIRED – streams listed as impaired for some chemical or biological reasons developed by IDEM (2002)
LAYER: STREAMS_IMPAIRED [BLA]: Impaired Streams in Southwestern Indiana (Indiana Department of Environmental Management, Line Shapefile)
DESCRIPTION: line shapefile that shows all the streams listed as category 5 impaired in the 2002 303d report. Attributes include the cause of impairment.

SUBJECT: WASTEWATER COLLECTION / TREATMENT FACILITIES – wastewater collection and treatment developed by the USEPA and field checked by Bernardin, Lochmueller and Associates
LAYER: CLEAN_WATER_EPA_SW: 1996 Clean Water Needs Survey in Southwestern Indiana, Derived from EPA BASINS (United States Environmental Protection Agency, Point Shapefile)
DESCRIPTION: shapefile covers publicly owned, municipal wastewater collection and treatment facilities, facilities for the control of combined sewer overflows (CSOs), activities designed to control storm water runoff and nonpoint source pollution. This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: WATER TOWERS – water tower locations developed by Bernardin, Lochmueller and Associates from field review and USGS quads
LAYER: WATER_TOWERS_I69RTS [BLA]: Water Towers in Portions of Southwestern Indiana (Bernardin, Lochmueller and Associates, Point Shapefile)
DESCRIPTION: point shapefile shows water towers encountered during a field review of the 2-mile study band for the Evansville to Indianapolis I-69 Study. Only towers encountered are included and it is very likely that the dataset is not complete even for the 2-mile wide band area. This file has been updated from field reviews of the 2-mile wide study bands. It was also updated using Quadrangle DRG files for those USGS 7.5' quadrangles that intersect the 2-mile wide study band of the proposed routes for I-69 from Evansville to Indianapolis (Tier 1).

SUBJECT: WELLHEAD PROTECTION AREA – Area surrounding a wellhead that should be protected from contaminants to ensure safe drinking water, developed by IDEM
LAYER: (1) WATERSUPPLY_PUBLIC_GPS_SW_FIXEDRADIUS: Wellhead Protection Areas, 3000 Feet Radius (Indiana Department of Environmental Management, Polygon Shapefile) (2) WATERSUPPLY_PUBLIC_GPS_SW_MODEL: Wellhead Protection Areas, Modeled Area (Indiana Department of Environmental Management, Polygon Shapefile)
DESCRIPTION: (1) polygon of a 3000-foot radius wellhead protection area for public water supply wells that pump less than 100,000 gallons per day. Protecting this area from contaminants will ensure safe drinking water. This file was developed by IDEM. (2) polygon of wellhead protection area for public water supply wells that pump more than 100,000 gallons per day. The area generated by IDEM using modeling should protect a 5-year supply of ground water. Protecting this area from contaminants will ensure safe drinking water.



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Tier 1 Alternatives

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

NOTE: The alternatives shown here are those which have been thoroughly described and compared within this EIS. The DEIS Volume III Environmental Atlas, maps each alternative comprehensively.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

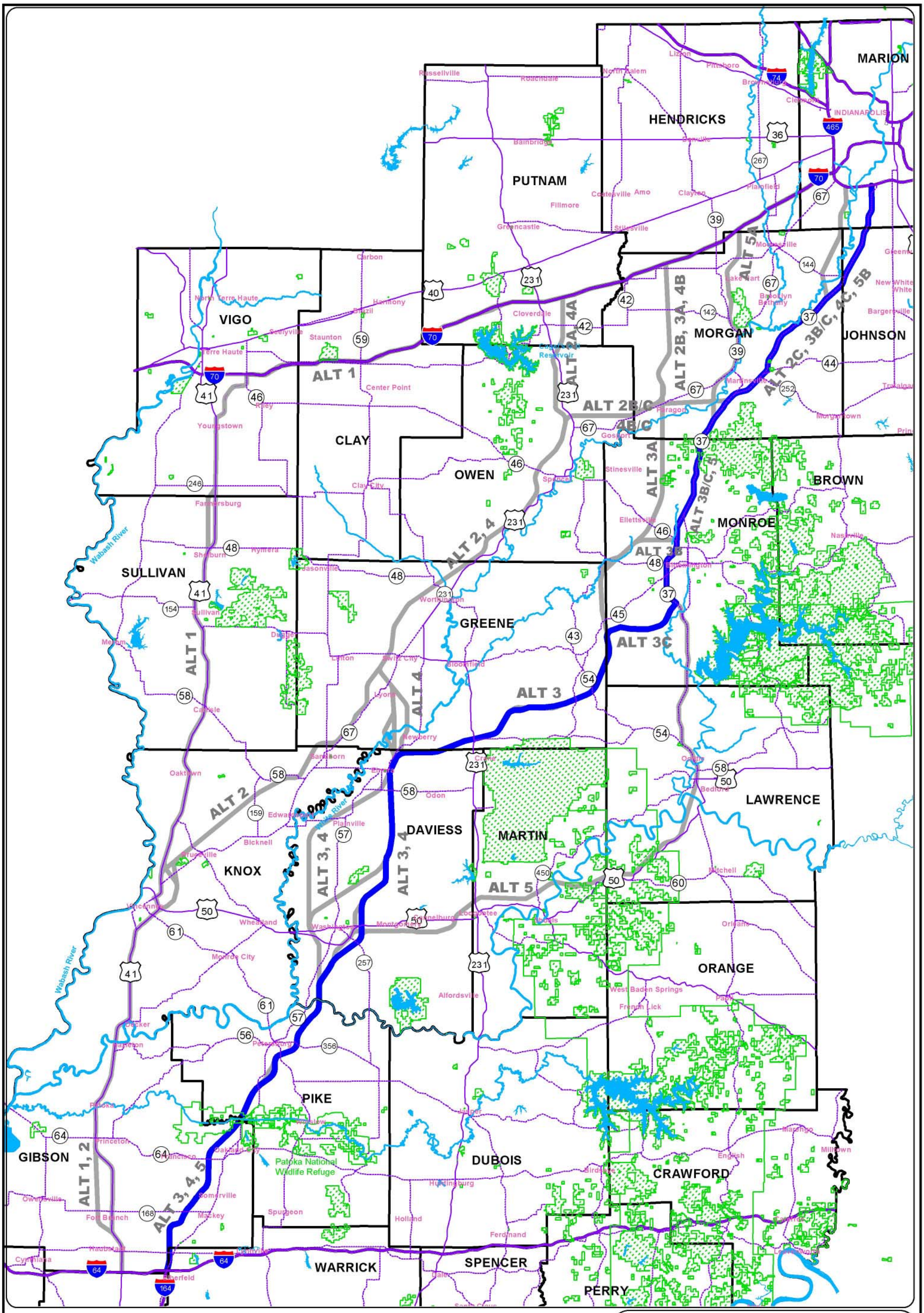
0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Tier 1 Alternatives

CITIES
Interstate
US Highway
State Highway
Water Bodies
County
Aquirement Boundaries

Alternative 1
Alternative 2
Alternative 3
Alternative 4
Alternative 5
Managed Lands



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3C

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

NOTE: This FEIS Volume III Environmental Atlas highlights only the preferred Alternative 3C. The alternatives shown here are those which have been thoroughly described and compared within this EIS. The DEIS Volume III Environmental Atlas, maps each alternative comprehensively.

N

1:552,000
inch = 46,000 feet

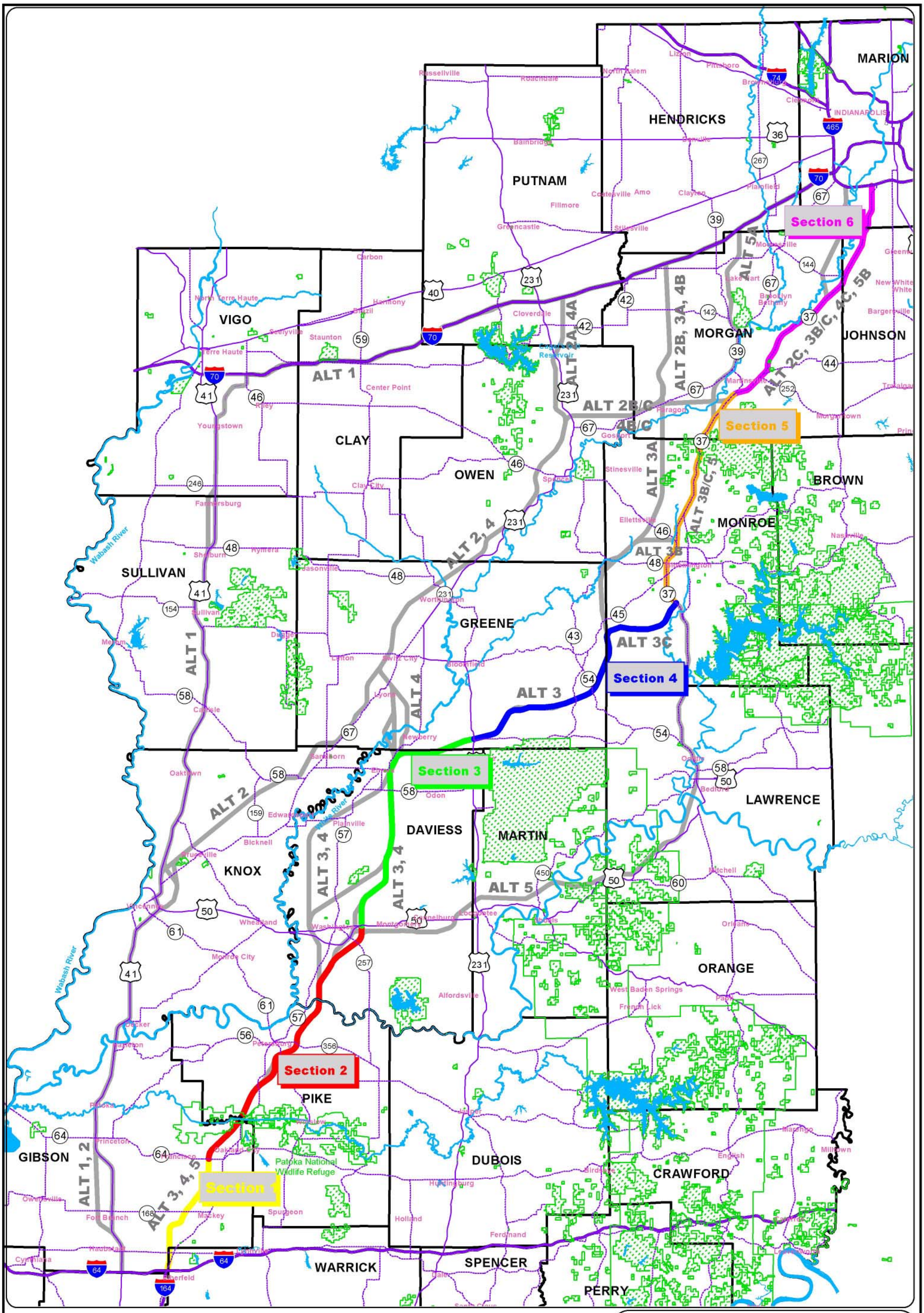
0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Preferred Alternative 3C

CITIES
Interstate
US Highway
State Highway
Water Bodies
County
Preferred Alternative 3C
Alternatives
Managed Lands
Aquirement Boundaries



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3C Sections

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

NOTE: Sections will be carried forward to the Tier II EIS for detailed study.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Preferred Alternative 3C Sections

CITIES
Interstate
US Highway
State Highway
Water Bodies
County
Managed Lands
Aquirement Boundaries
Alternatives

I-69 Preferred Alternative 3C

Physiographic Regions

Region	Alternative 3C
Wabash Lowland %	= 44
Boonville Hills %	= 3
Crawford Upland %	= 15
Mitchell Plateau %	= 9
Norman Upland %	= 6
Martinsville Hills %	= 9
New Castle Till Plains & Drainageways %	= 14

16. S.R. 37 - New Castle Till Plains & Drainageways

14. S.R. 37 - Martinsville Hills

15. West Fork of the White River/S.R. 67 Crossing

13. Morgan-Monroe State Forest

10. Rock Springs

12. S.R. 37 - Norman Upland

8. U.S.231/S.R. 45 Intersection - Wabash Lowland/Crawford Upland Border

11. Karst Farm Park

7. S.R. 57 - Wabash Lowland

9. S.R. 45 - Crawford Upland

5. S.R. 57 - Wabash Lowland

6. East Fork of the White River/S.R. 57 Crossing

3. Patoka River/ S.R. 57 Crossing

4. Wetland Near S.R. 57 Crossing of the Patoka River

1. Northwest Quadrant of S.R. 57/ I-64 Interchange - Wabash Lowland

2. Pigeon Creek/ S.R. 57 Crossing

VIGO
CLAY
OWEN
MORGAN
MARION
HENDRICKS
PUTNAM
MONROE
BROWN
SULLIVAN
GREENE
MARTIN
DAVIESS
ORANGE
PIKE
GIBSON
DUBOIS
CRAWFORD
PERRY
WARRICK
SPENCER
POSEY

Preferred Alternative 3C
Populated Area
Stream
Managed Land
Plainville Sand Dune Region
Picture Location

Physiographic Region
Boonville Hills
Central Wabash Valley
Crawford Upland
Martinsville Hills
Mitchell Plateau
New Castle Till Plains and Drainageways
Norman Upland
Scottsburg Lowland
Tipton Till Plain
Wabash Lowland

N

1 : 750,000

0 10 20 Miles

0 10 20 30 Miles

NOTE: Physiographic Region percentages are approximate. Their purpose is to give a relative idea of those regions crossed by the proposed alternative.

Pictures marked with a black arrow and black type are examples of the topography and typical land use within the Physiographic Region. Pictures marked with a red arrow and red type are specific sites along the proposed alternative. Sites shown are not necessarily directly impacted by the proposed alternative. Rather, they may be sites of potential mitigation or important sites near the proposed alterative.

I-69 Preferred Alternative 3C

Natural Regions

Natural Region Section	Alternative 3C
Central Till Plain	
Entrenched Valley Section %	= 0
Tipton Till Plain Section %	= 14
Southwestern Lowlands	
Plainville Sand Section %	= 4
Glaciated Section %	= 24
Driftless Section %	= 12
Southern Bottomlands	
Southern Bottomlands Section %	= 8
Shawnee Hills	
Crawford Upland Section %	= 7
Escarpment Section %	= 9
Highland Rim	
Mitchell Karst Plain Section %	= 11
Brown County Hills Section %	= 11


20. S.R. 37 - Tipton Till Plain Section

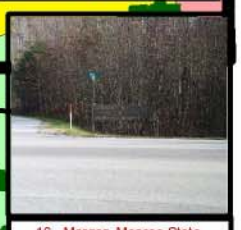

21. I-70 - Tipton Till Plain Section


18. S.R. 37 - Brown County Hills Section


17. S.R. 67 - Brown County Hills Section


19. West Fork of the White River/S.R. 67 Crossing


15. Muscatatuck National Wildlife Refuge - Restle Unit


16. Morgan-Monroe State Forest


14. Beanblossom Bottoms Nature Preserve


13. S.R. 37 - Mitchell Karst Plain Section


11. Rock Springs


12. Karst Farm Park


9. U.S. 231/ S.R. 45 Intersection - Glaciated Section


8. Plainville Sand Dune Region


10. S.R. 45 - Crawford Upland Section


7. S.R. 57 - Plainville Sand Section


5. S.R. 57 - Driftless Section/ Glaciated Section Border


6. East Fork of the White River/S.R. 57 Crossing


3. Patoka River/ S.R. 57 Crossing


4. Wetland Near S.R. 57 Crossing of the Patoka River


1. Northwest Quadrant of S.R. 57/ I-64 Interchange - Driftless Section


2. Pigeon Creek/ S.R. 57 Crossing

VIGO
CLAY
PUTNAM
OWEN
MORGAN
HENDRICKS
MARION
BROWN
SULLIVAN
MARTIN
LAWRENCE
DAVIESS
KNOX
ORANGE
PIKE
DUBOIS
GIBSON
CRAWFORD
WARRICK
PERRY
POSEY
SPENCER

N

1 : 750,000

0 10 20 Miles

0 10 20 30 Miles

Preferred Alternative 3C
Alternatives
Populated Area
Stream
Managed Land
Plainville Sand Dune Region
Picture Location

Natural Regions

Central Till Plain
- ENTRENCHED VALLEY SECTION
- TIPTON TILL PLAIN SECTION

Southwestern Lowlands
- PLAINVILLE SAND SECTION
- GLACIATED SECTION
- DRIFTLESS SECTION

Southern Bottomlands
- SOUTHERN BOTTOMLANDS SECTION

Shawnee Hills
- CRAWFORD UPLAND SECTION
- ESCARPMENT SECTION

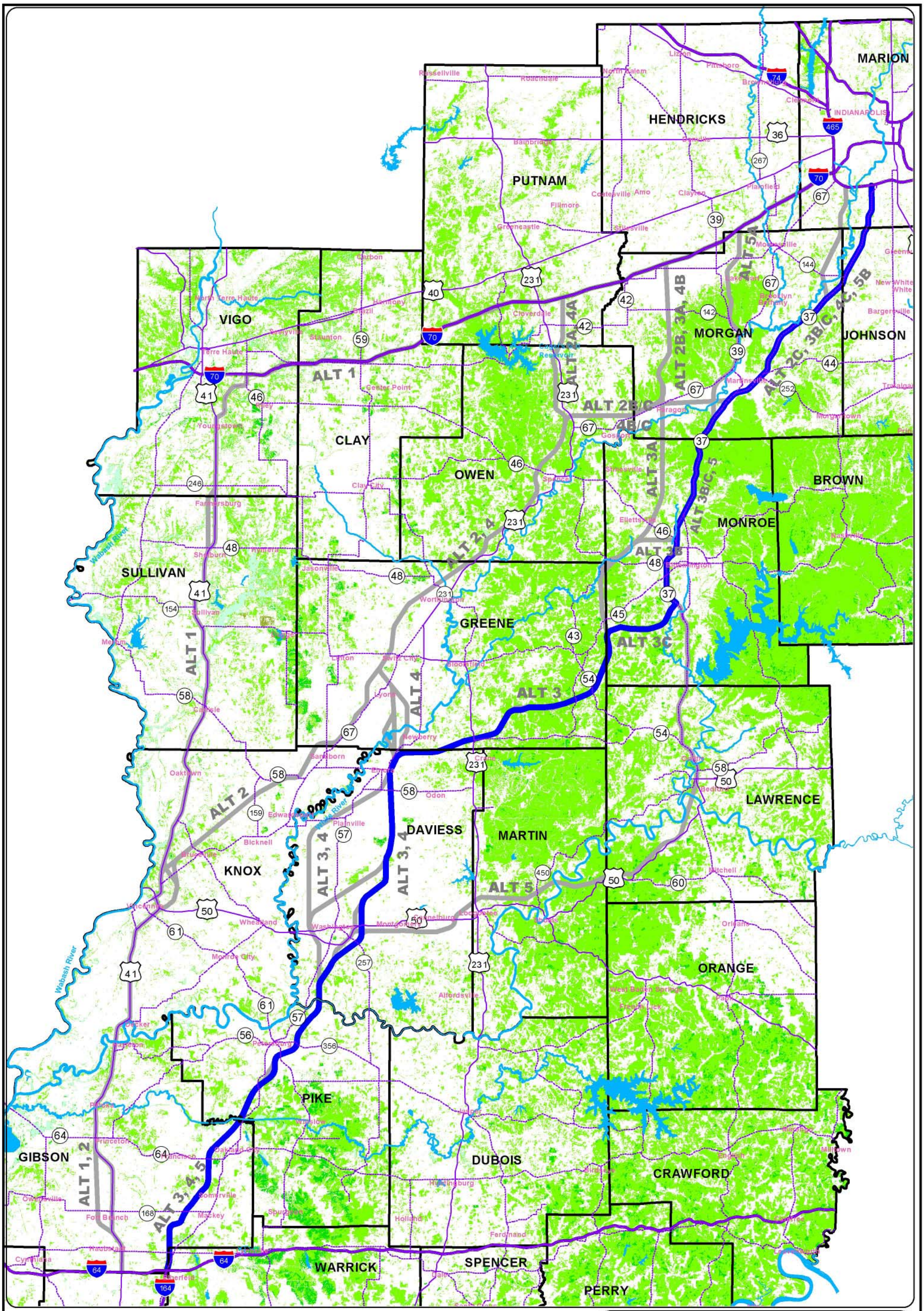
Highland Rim
- MITCHELL KARST PLAIN SECTION
- BROWN COUNTY HILLS SECTION

Bluegrass
- SCOTTSBURG LOWLAND SECTION

NOTE: Natural Region Section percentages are approximate. Their purpose is to give a relative idea of those sections crossed by the proposed alternative.

Natural Region Section percentages were calculated using an eastern bypass of Washington. A western bypass would have higher percentages of the Plainville Sand and Southern Bottomlands Sections, and a lower percentage of the Glaciated Section.

Pictures marked with a black arrow and black type are examples of the topography and typical land use within the Natural Region Section. Pictures marked with a red arrow and red type are specific sites along the proposed alternative. Sites shown are not necessarily directly impacted by the proposed alternative. Rather, they may be sites of potential mitigation or important sites near the proposed alterative.



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Forestland

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Forestland area was obtained from the USGS Landcover Grid. The grid was created by remote sensing Landsat TM satellite images from average 1992 with 30-m resolution.

N

1:552,000
inch = 46,000 feet

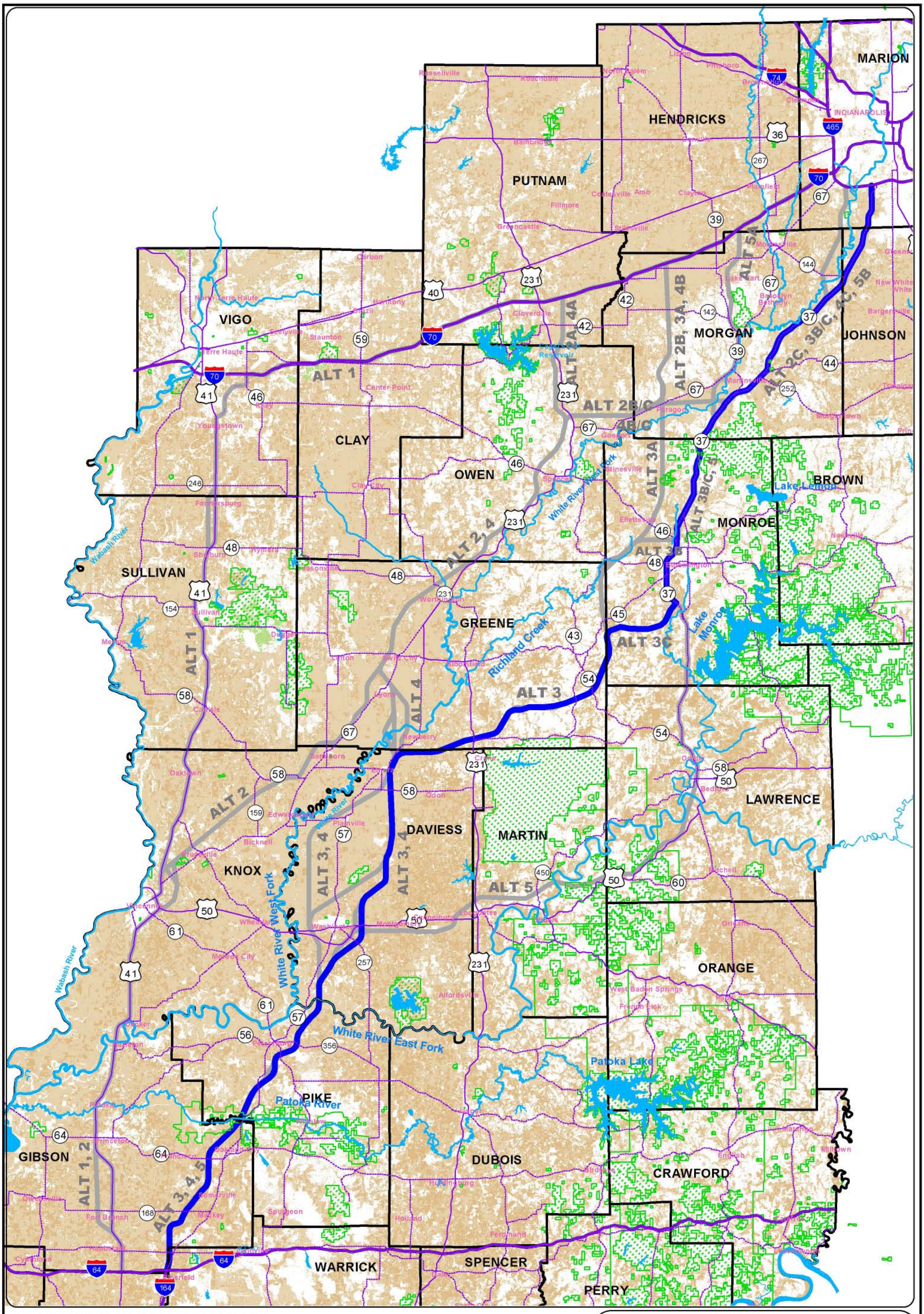
0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Forestland

- Preferred Alternative 3C
- Alternatives
- Interstate
- US Highway
- State Highway
- CITIES
- County
- Water Bodies
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrubland
- Woody Wetland



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Farmland

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Farmland area was obtained from the USGS Landcover Grid. The grid was created by remote sensing Landsat TM satellite images from average 1992 with 30-m resolution.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

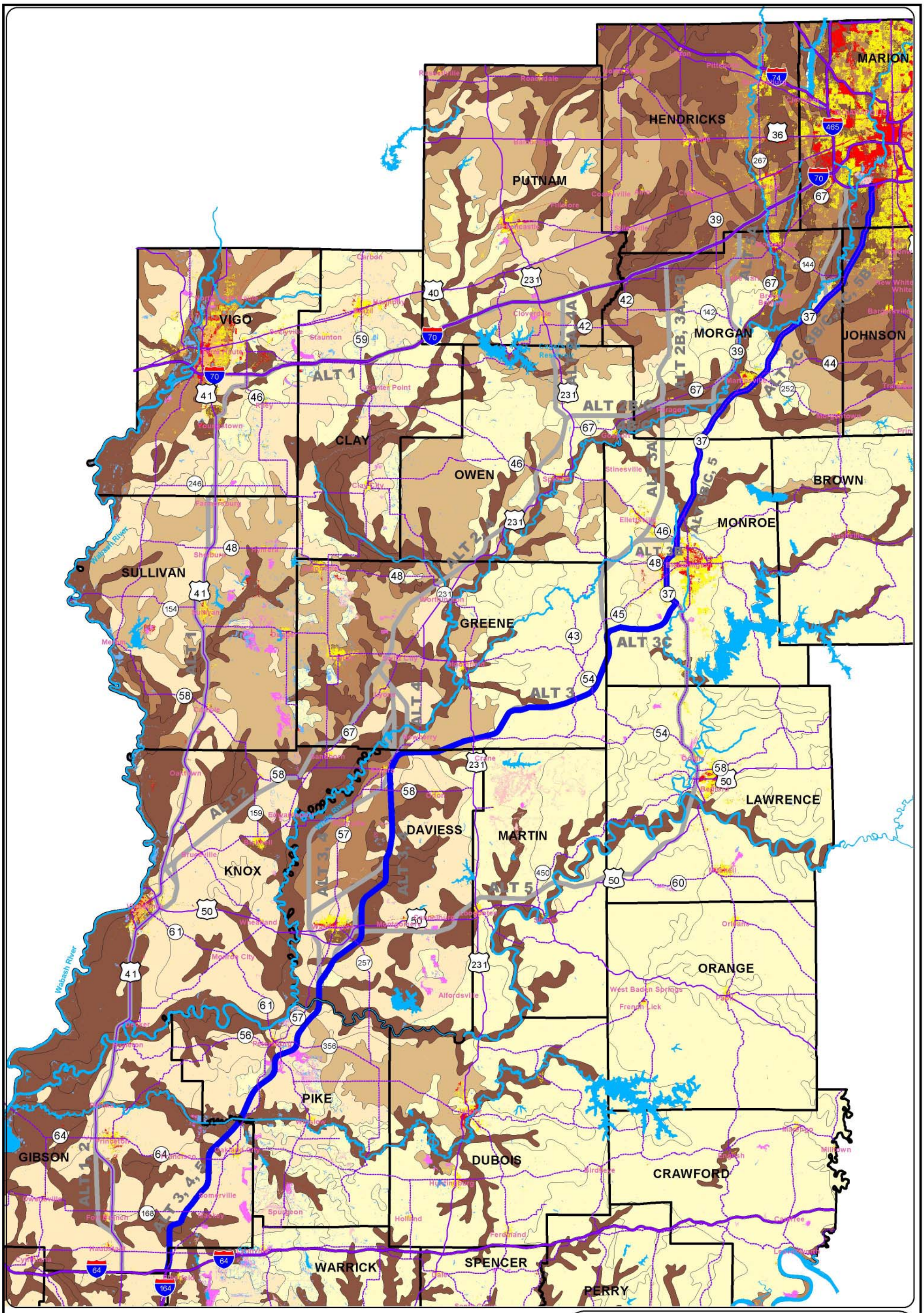
0 10000 20000 30000 40000 Meters

Farmland

- Preferred Alternative 3C
- Alternatives
- Interstate
- US Highway
- State Highway
- Managed Lands
- Aquirement Boundaries

CITIES

- County
- Water Bodies
- Grassland
- Pasture
- Row Crops
- Small Grains



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Prime Farmland Soils

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Prime Farmland is derived from the associated tables of the Statsgo Soils digital coverage. The map units designated prime farmland were added to obtain the total percentage of prime farmland in the entire association. The percentage includes both "as is" prime farmland and prime farmland conditional on management practices.

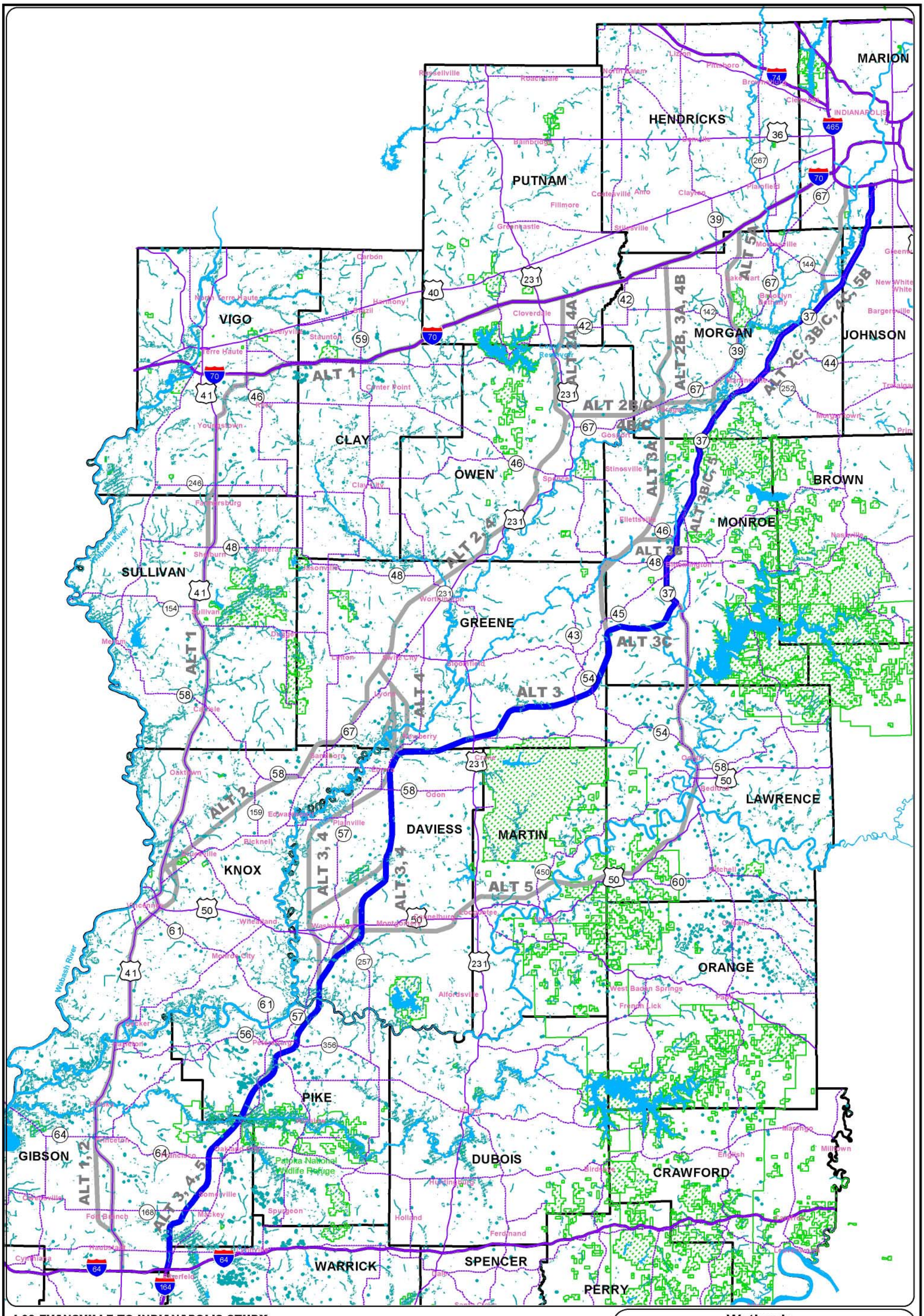
Prime Farmland Soils

- Preferred Alternative 3C
- Alternatives
- Interstate
- US Highway
- State Highway
- County
- Water Bodies
- Low Residential
- High Residential
- Industrial / Commercial
- Rock / Sand / Clay
- Quarry / Mine / Pit
- Transitional

CITIES

Prime Farmland

- 9-30%
- 31-60%
- 61-75%
- 76-90%
- 91-100%



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Wetlands

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Wetlands were obtained from US Fish and Wildlife Service, National Wetland Inventory, Digital GIS files. These wetlands may or may not be jurisdictional. Only wetlands with the code preface PFO, PEM, or PSS were included.
Lakes and Rivers were obtained from the National Hydrography Database.
Managed areas were obtained from the IDNR Heritage Database and were updated with files from individual areas.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Wetlands

- Interstate
- US Highway
- State Highway
- Water Bodies
- County
- Aquirement Boundaries

CITIES

- Preferred Alternative 3C
- Alternatives
- Wetland Polygons
- Wetland Lines
- Wetland Points
- Managed Lands

% Route in Glaciated Area	56%
% Route in Unglaciated Area	44%

I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C — Karst Areas

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

CAVE DENSITY AREAS were created by Indiana Geological Survey (IGS) from a database developed in cooperation with the Indiana Cave Survey. Specific cave locations were summarized into 1-km square densities.
SINKING AREA and SPRINGS were created by IGS from unpublished maps.
GLACIATED AREA was created from: Gray, H H, 1988, "Relict Drainageways Associated with the Glacial Boundary in Southern Indiana", Special Report 45 Geological Survey, Bloomington, IN

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

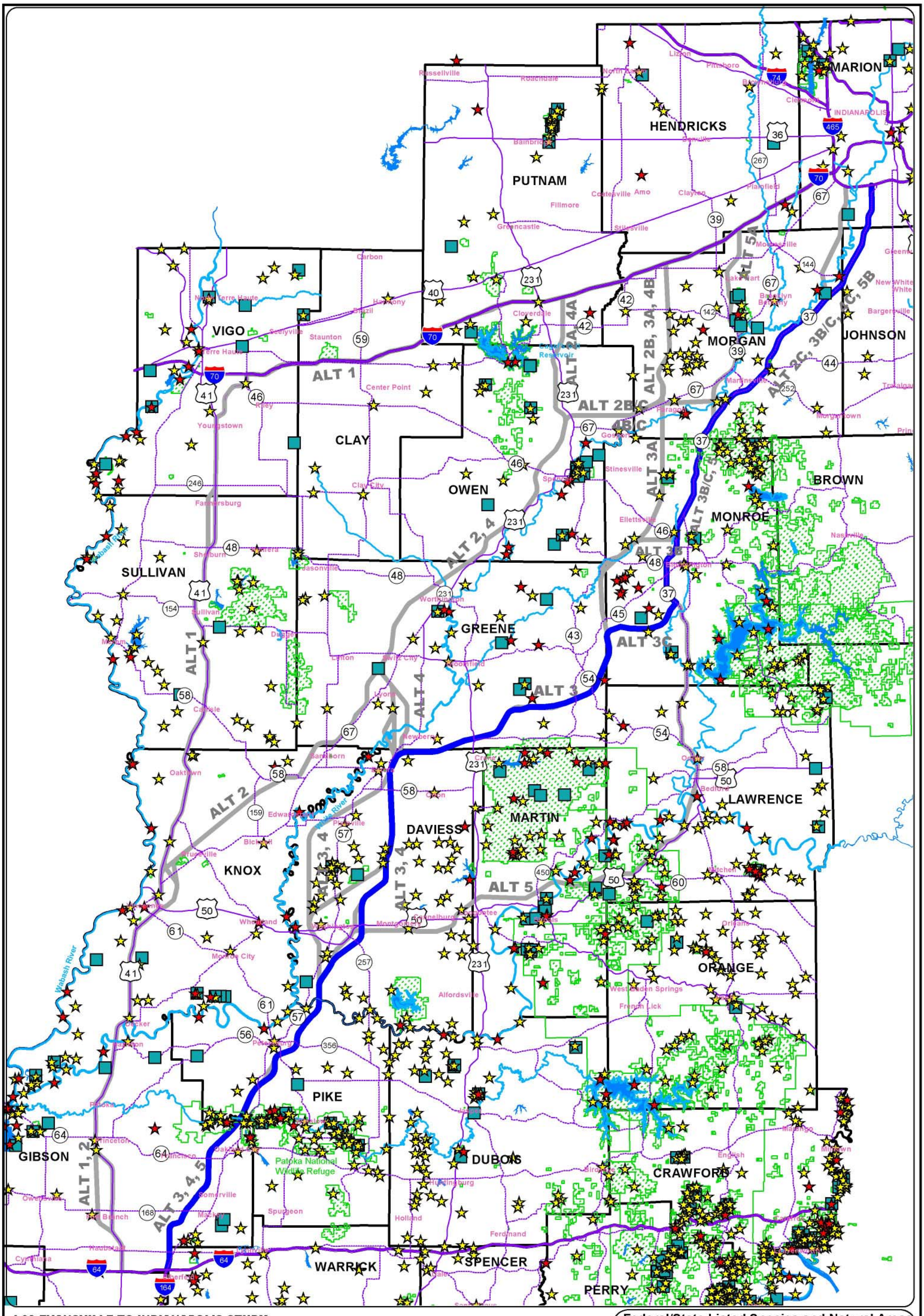
0 10000 20000 30000 40000 Meters

Karst Areas

CITIES
Preferred Alternative 3C
Alternatives
Interstate
US Highway
State Highway
County

Water Bodies
Glaciated Area (Pre-Wisconsin)
Spring / Seep
Sinkhole Area
Sinking-Stream Basin
Managed Lands
Aquirement Boundaries

Cave Density (per sq km)
1
2
3
4
5
6
7
8
11
14



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C

Federal/State Listed Species and Natural Areas

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Federal and State Listed Species Sitings and Habitat were obtained from the IDNR Heritage Database. Sitings include threatened, endangered, rare, and special concern.
Sitings were recorded from the late 1800s to July2003. Sitings recorded during or after 1973 are shown.

N

1:552,000
inch = 46,000 feet

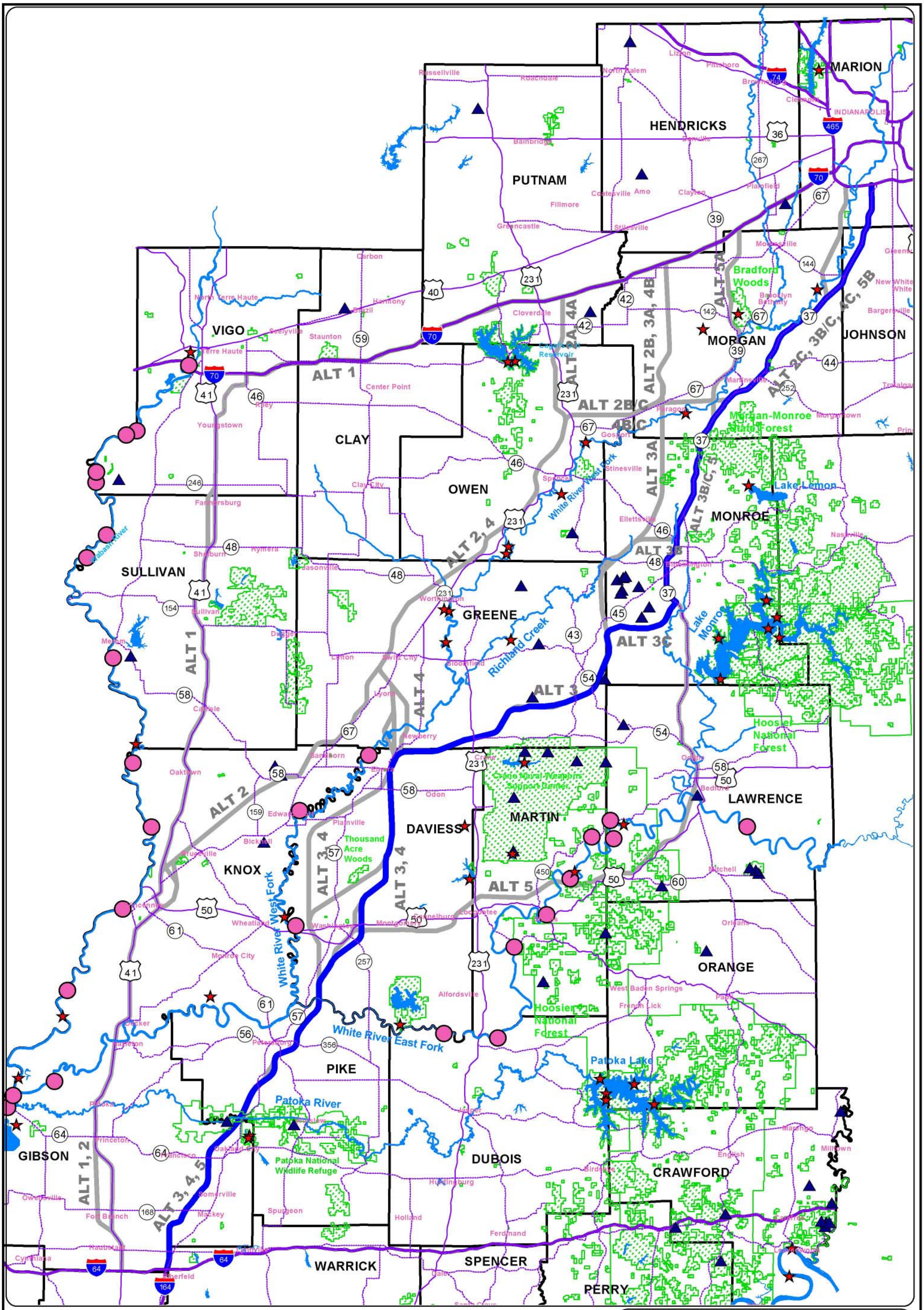
0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Federal/State Listed Species and Natural Areas Sitings 1973 - 2003

- Interstate
- US Highway
- State Highway
- Water Bodies
- County
- Managed Lands
- Aquirement Boundaries
- Preferred Alternative 3C
- Alternatives
- High Quality Natural Communites
- Federal Listed Species Siting (Endangered , Threatened)
- State Listed Species Siting (Endangered, Threatened, Rare, Special Concern)
- CITIES



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3C

ESA Section 7
Consultation Species

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Species location data is from the IDNR Heritage database. Data is current to July 2003. Brown County was not included in this dataset. Few bald eagle and one Indiana bat location were added from expert information.

N

1:552,000
inch = 46,000 feet

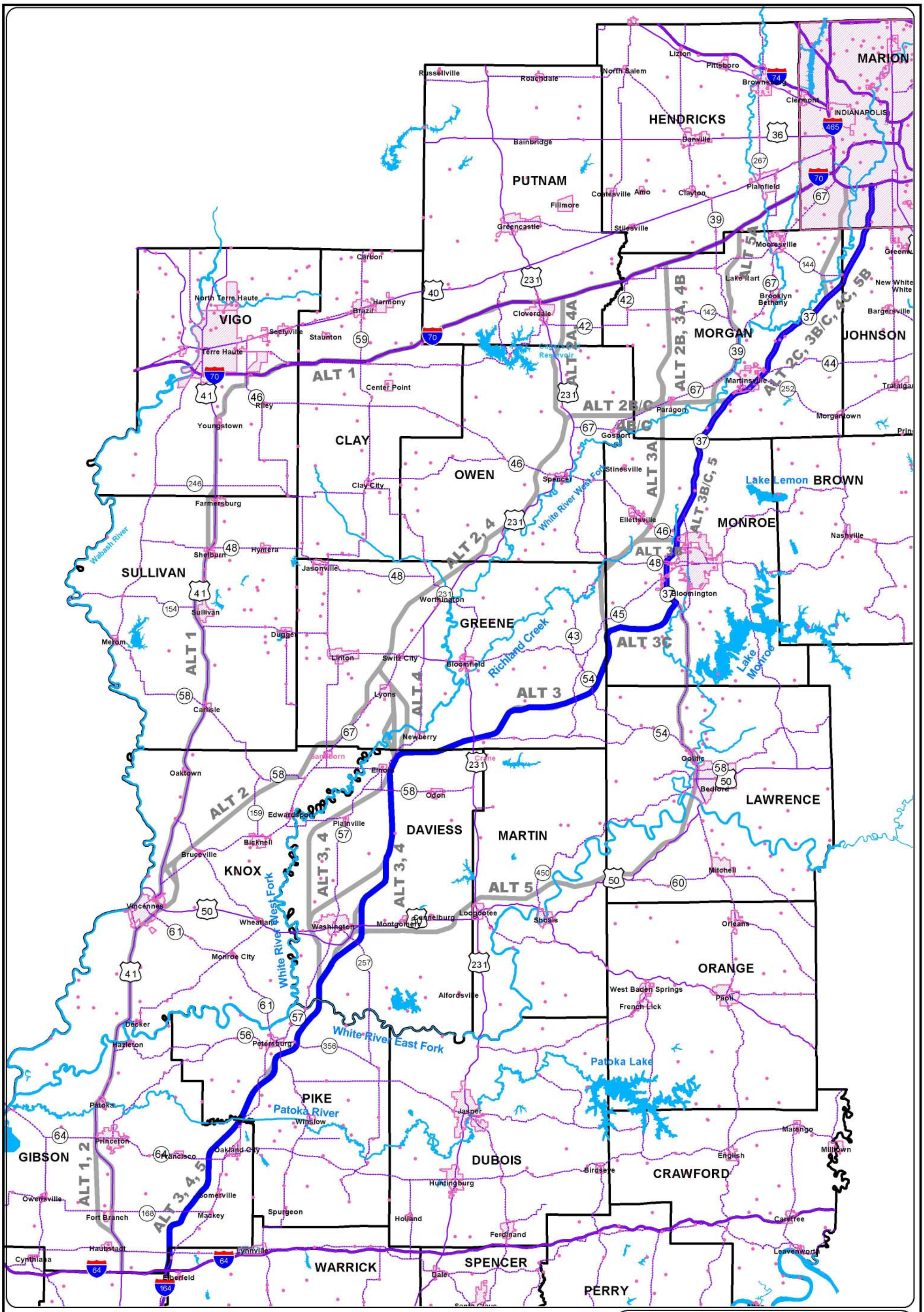
0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

ESA Section 7 Consultation Species

CITIES
Interstate
US Highway
State Highway
Water Bodies
County
Managed Lands
Preferred Alternative 3C
Alternatives
Indiana Bat
Bald Eagle
Fanshell mussel
Aquirement Boundaries



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Cities / Towns

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Highways are part of the Indiana State Highways Model.
City areas outline the main area of residential development but may not be the legal city limit.

N

1:552,000
inch = 46,000 feet

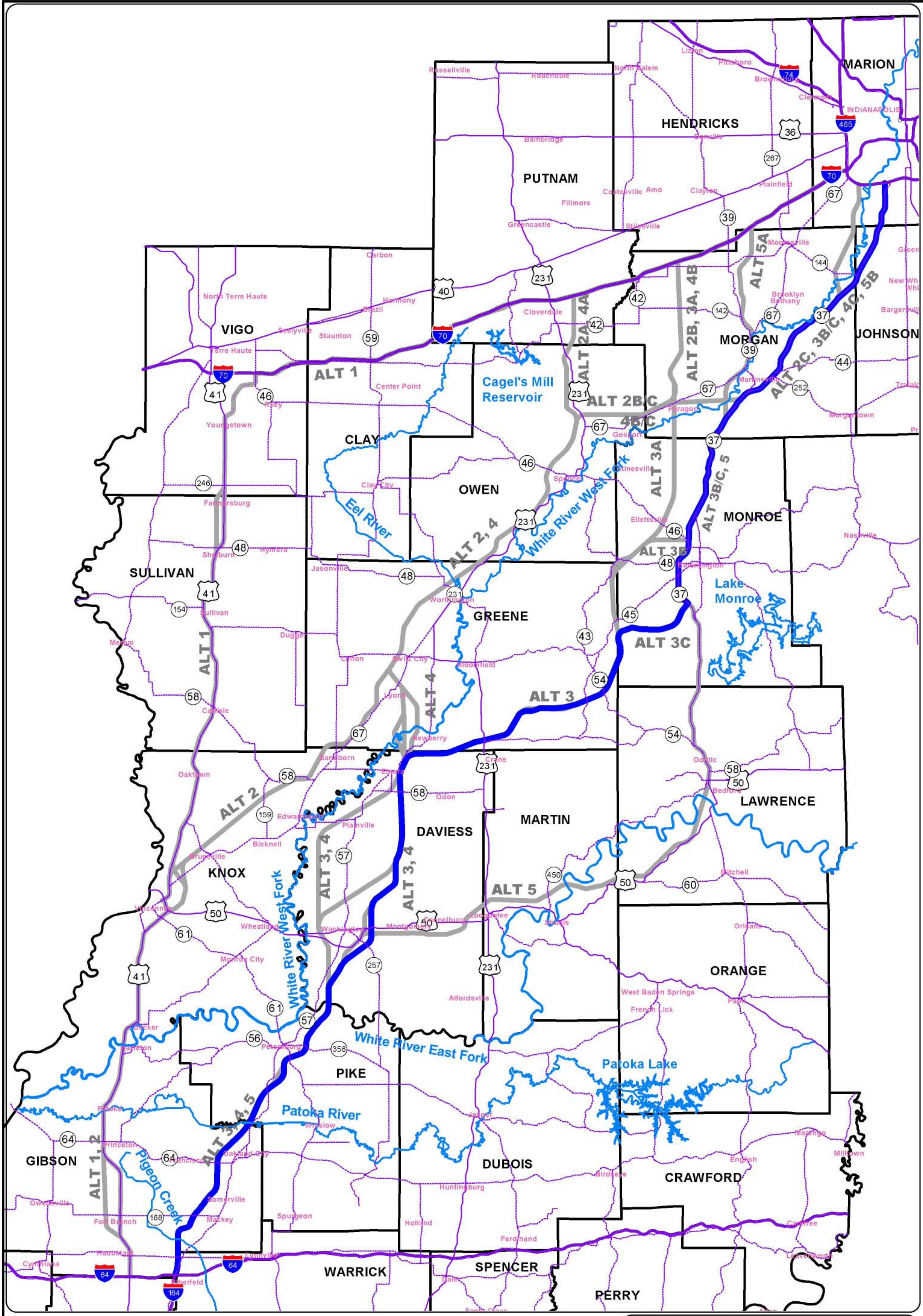
0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Cities/Towns

- Interstate
- US Highway
- State Highway
- Water Bodies
- County
- Preferred Alternative 3C
- Alternatives
- Cities/Towns
- Communities



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3C Major Water Bodies

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Highways are part of the Indiana State Highways Model.
Water Bodies are from the National Hydrography Dataset

N

1:552,000
inch = 46,000 feet

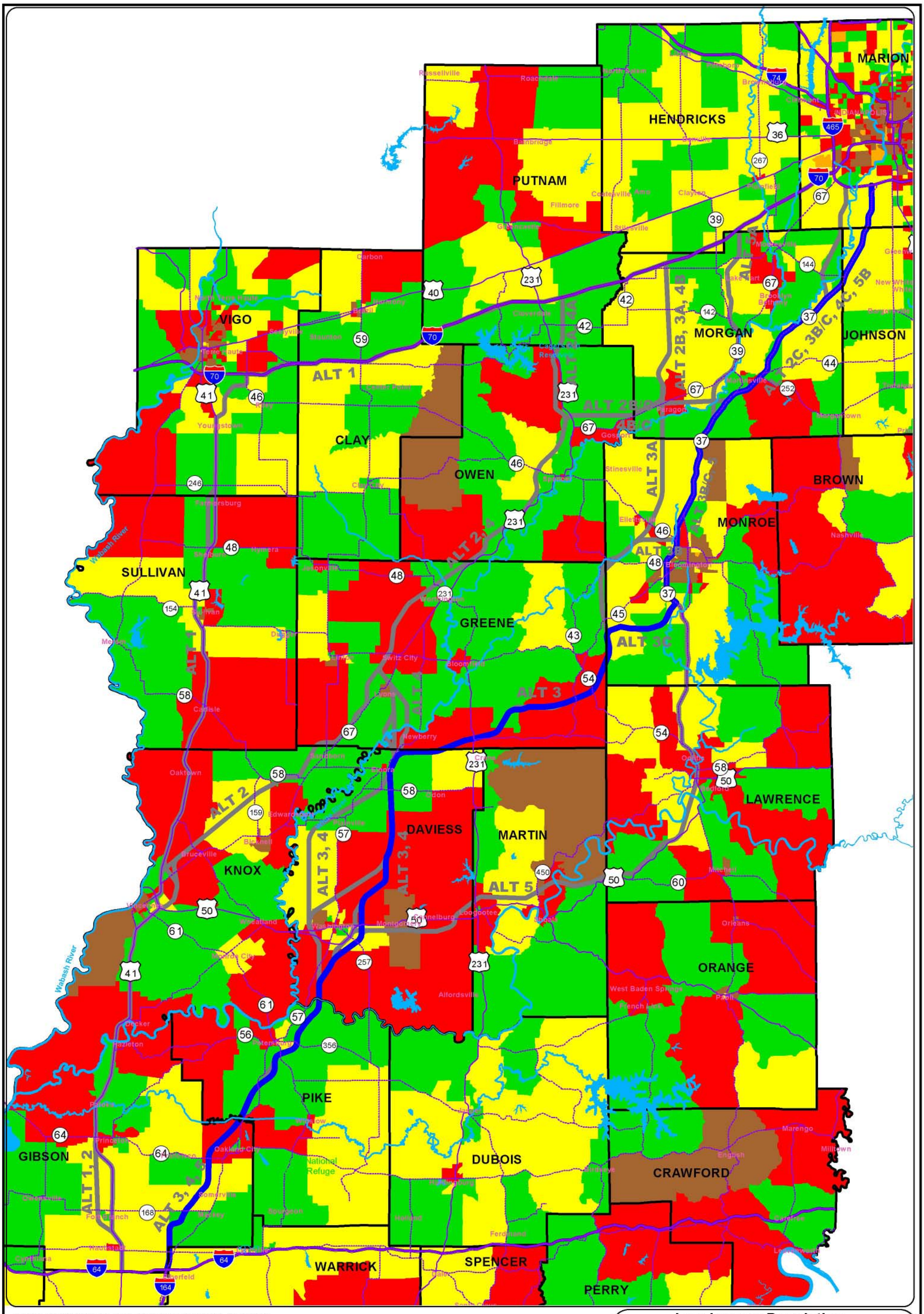
0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Major Water Bodies

- Interstate
- US Highway
- State Highway
- Water Bodies
- County
- Preferred Alternative 3C
- Alternatives
- Cities/Towns



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3C Low Income Population

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Low income data was obtained from the 2000 census information. Population classified in census block groups as low income from all age groups were summarized. Then the total percentage of low income population was calculated.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

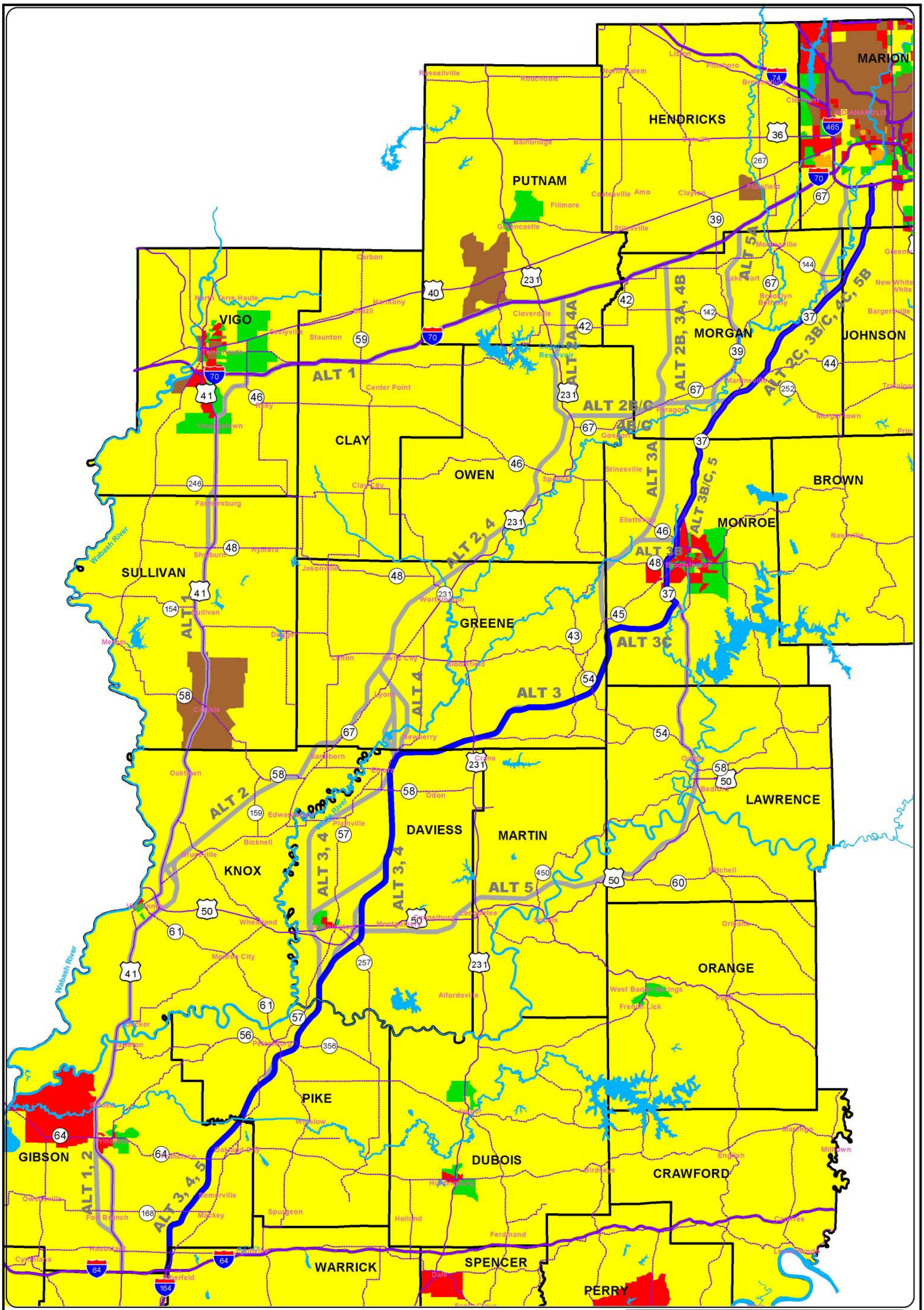
0 10000 20000 30000 40000 Meters

Low Income Population

CITIES
Preferred Alternative 3C
Alternatives
Interstate
US Highway
State Highway
Water Bodies

County

Low Income Population
0-5%
5.01-10%
10.01-20%
> 20%
no recorded population



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Minority Population

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Minority data was obtained from the 2000 census information. Population classified in census block groups as Black, Hispanic, Asian, American Indian/Alaskan Native, or Hawaiian/Pacific Islander were summarized. Then the total percentage of minority population was calculated.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

0 30000 60000 90000 120000 Feet

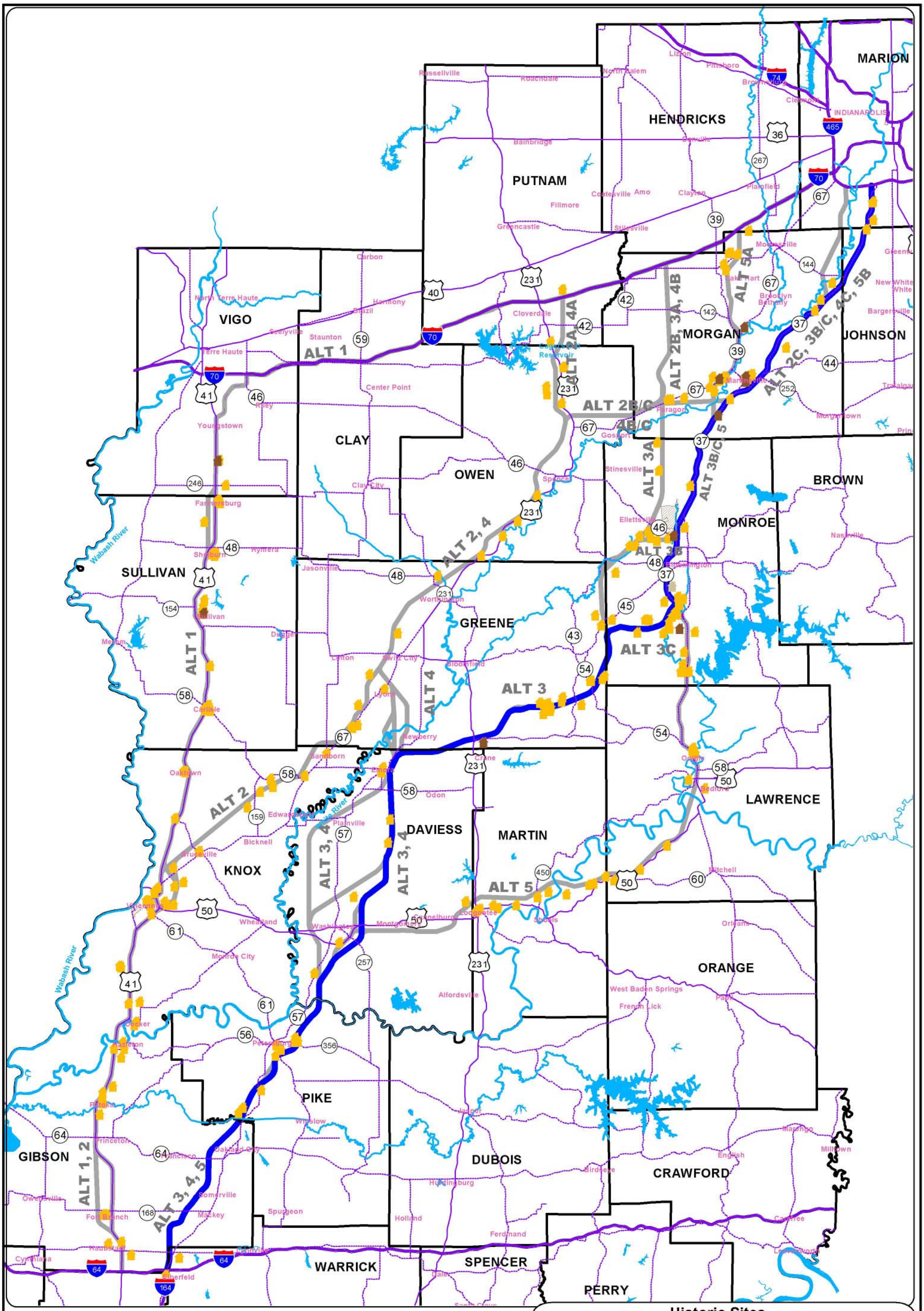
0 10000 20000 30000 40000 Meters

Minority Population

CITIES
Preferred Alternative 3C
Alternatives
Interstate
US Highway
State Highway
Water Bodies

County

Minority Population
0-5%
5.01-10%
10.01-20%
> 20%
no recorded population



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Historic Sites

Bernardin, Lochmueller & Associates, Inc.

UTM 16, NAD83, meters
DATE: 2003 v.1118

This map shows only: potentially eligible and listed National Register (NR) individual properties and listed NR districts within a 2-mile wide Area of Potential Effects (except for the area along I-70 where the APE was narrowed to 2000-feet.) Because boundaries for potentially eligible historic districts have not yet been defined, these properties are not represented on this layer. Note: Information shown on this map is not warranted for accuracy or merchantability. GIS data used to create this map are from the best known sources existing at this time. However, experience shows that many national datasets are not all inclusive. Use of this map should be limited to planning and is intended to serve as an aid in graphic representation only. This map does not represent a legal document.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 Miles

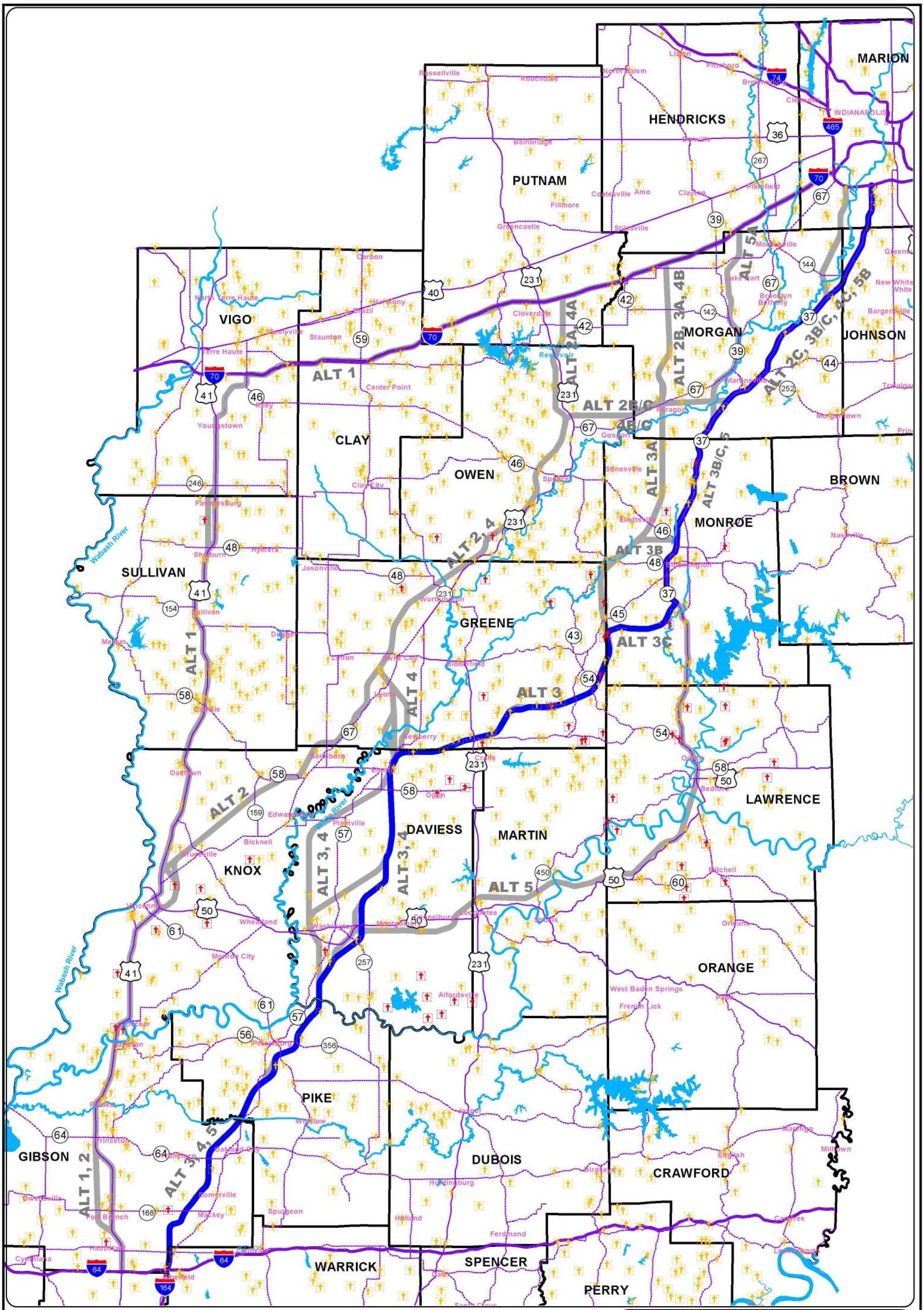
0 30000 60000 90000 Feet

0 10000 20000 30000 Meters

Historic Sites

CITIES

- Preferred Alternative 3C
- Alternatives
- Interstate
- US Highway
- State Highway
- County
- Water Bodies
- National Register Historic Site/Stucture
- National Register Historic Districts
- Indiana Register Historic Site/Structure
- Potentially Eligible for National Register



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3C Cemeteries

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

NOTE: Cemeteries were downloaded from the USGS Geographic Names Information System (GNIS) and were then updated from information obtained from County Historic Interim Rpts and Public Comments. No updates were obtained for Daviess and Martin Counties; historic reports were not available. Updates were concentrated in areas within 2 miles of a possible centerline, but occasionally were added outside that distance.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles

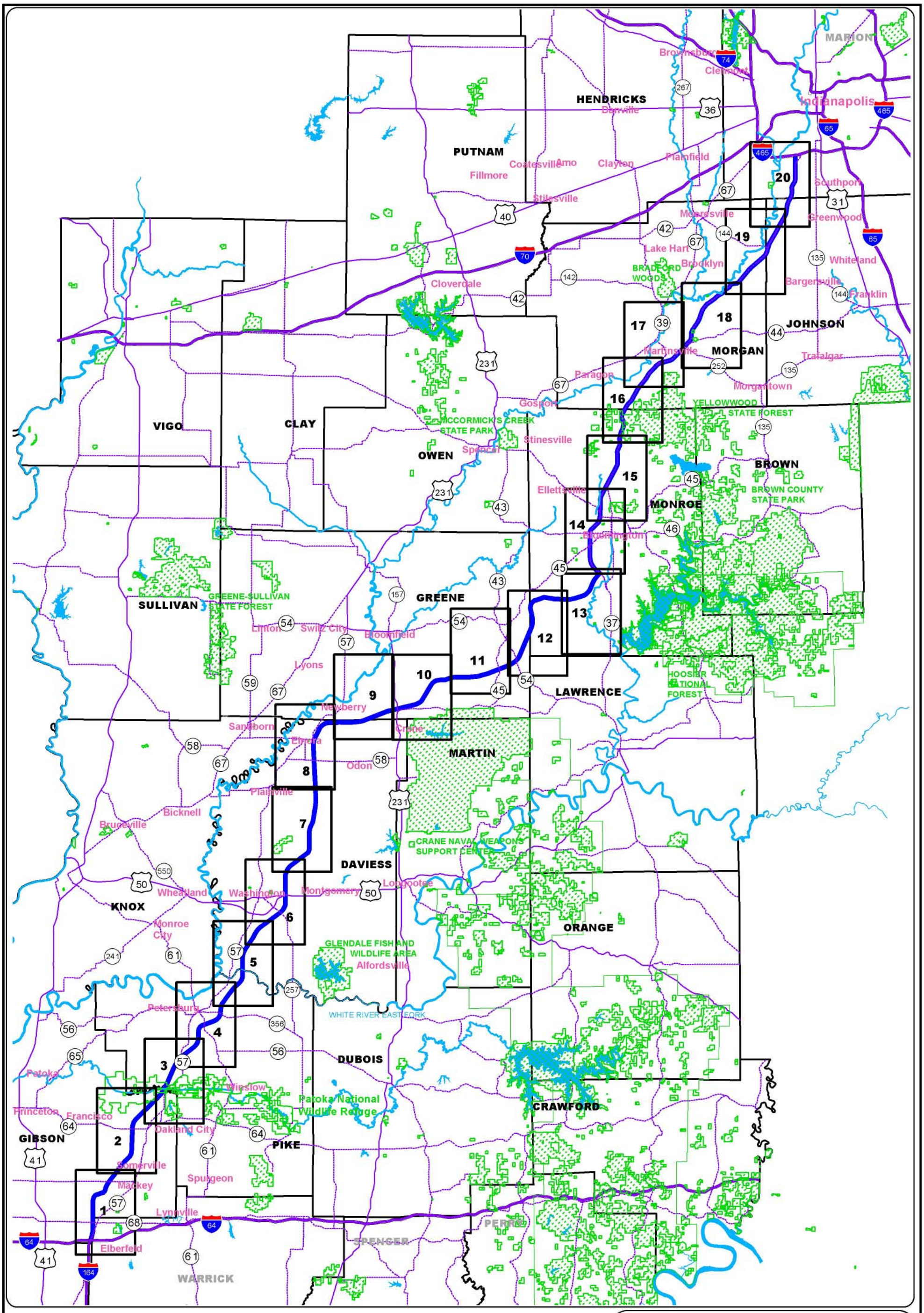
0 30000 60000 90000 120000 Feet

0 10000 20000 30000 40000 Meters

Cemeteries

CITIES
Interstate
US Highway
State Highway
Water Bodies
County

Preferred Alternative 3C
Alternatives
Cemeteries (included in DEIS)
Cemeteries (added to FEIS)



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3C Route Index

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Sheets depicted on this map provide a guide for using Atlas sheets for each route.
Managed areas were obtained from the IDNR Heritage Database and were updated with files from individual areas.

N

1:552,000
inch = 46,000 feet

0 5 10 15 20 25 Miles
0 30000 60000 90000 120000 Feet
0 10000 20000 30000 40000 Meters

Index Legend

- Preferred Alternative 3C
- Interstate
- US Highway
- State Highway
- Water Bodies

CITIES

- County
- Map Sheets
- Managed Lands
- Acquirement Boundary

Environmental Atlas Master Legend

Study Elements

- Study Band (2-Mile Wide)
- Study Corridor (Variable Width 420 - 2000 feet)
- Working Alignment (variable width)
- Interchange, Existing (may be modified)
- Interchange, Potential
- Grade Separation, Existing (Overpass or Underpass) (may be modified)
- Grade Separation, Potential (Overpass or Underpass)

Geographic & Spatial References

- County Boundary
- Physiographic Region

Biological & Environmental

- Managed Land (mostly public, few private)
- High Biodiversity Area
- Plainville Sand Dune Region
- Big Tree Champion
- Superfund Sites
- Industrial Waste Sites
- Toxic Release Inventory Site
- Voluntary Remediation Program Site
- Underground Storage Tank (UST)
- Leaking Underground Storage Tank (LUST)

Demographic & Cultural

- Single Family Home (along proposed routes only)
- Multiple Family Home (Apts, Group Homes) (along proposed routes only)
- Trailer Home Park
- Subdivision (along proposed routes) (developed after DOQQ aerial photos)
- Business (along proposed routes only)
- Populated Area (general)
- Railroad
- Airport
- Heliport
- Church
- Cemetery
- College or University
- School
- Police Department
- Fire Department
- Civil Defense
- Hospital/Clinic
- Tower
- Recreation Area (public and private)
- Recreation Trail
- Active Landfill, Transfer Station, or Other Permitted Solid Waste Site
- Inactive, Abandoned Landfill or Open Dump

Historic Features

- National Register Historic Site/Stucture (within the 2-mile APE only)
- National Register Historic District (within the 2-mile APE only)
- Potentially Eligible for National Register (within 2-mile APE only)
- Indiana Register Historic Site/Stucture (within 2-mile APE only)
- Wabash-Erie / Central Canals
- Canal Reservoir (drained)

Canal Structures

- Lock
- Dam
- Waste Gate
- Culvert
- Aquaduct
- Guard Lock
- Historic Town
- Canal Bridge

Hydrology

- Streams (NWI)
- Floodplains (general)
- Lakes and Ponds (NWI)
- NWI Wetland
- NWI Wetland Stream
- NWI Wetland
- Dam
- Spring/Seep

Geology

- Earthquake Epicenters
- Sinkhole Area
- Sinking-Stream Basin
- Karst Dye Line
- Karst Dye Input Point
- Karst Dye Output Point
- Fault Lines and Other Structural Features

Mineral & Energy Resources

- Mineral Facilities (inc. pits and quarries)
- Pit or Quarry (sand, gravel, clay, shale)
- Abandoned Quarry
- Abandoned Sand & Gravel Pit
- Oil Well
- Gas Well
- Gas Storage Well
- Abandoned Gas Storage Well
- Pipeline
- Powerline
- Electric Power Facility (corporate owned)
- Power Substation
- Underground Coal Mine
- Surface Coal Mine

Underground Coal Mine Entries (1835 - 2000) [vast majority have been closed]

- Hoist Shaft
- Air/Escape Shaft
- Slope or Drift
- Unknown

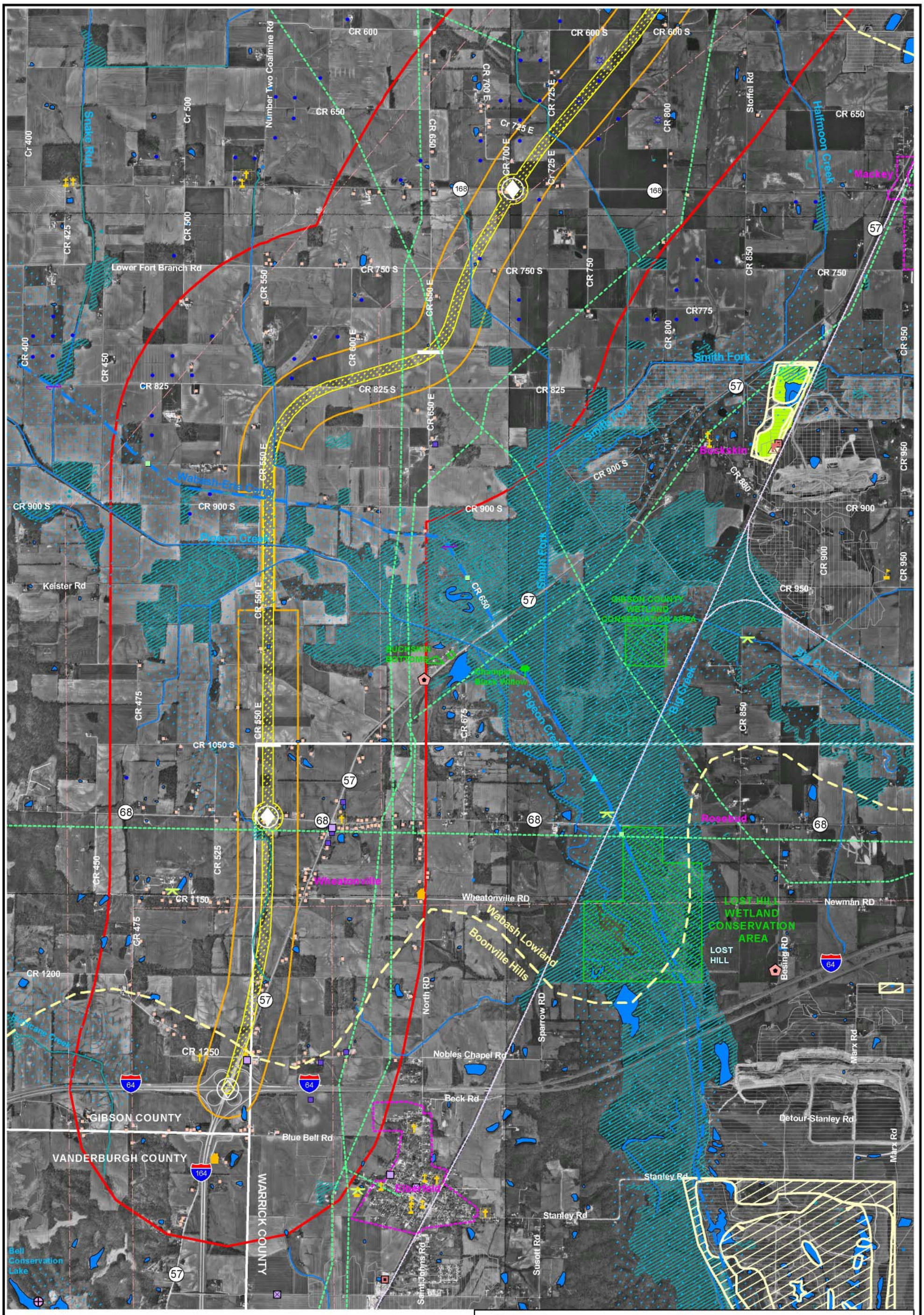
Abandoned Mine Land Features

- Site Boundary
- Coal Equipment/Facility
- Gasses: Hazardous/Explosive
- Coal Refuse

Note: GIS data used to create this map are from the best known sources existing at this time. However, experience shows that many national datasets such as cemeteries, churches, airports, schools, karst, etc. are not all inclusive. Some national datasets are created on a much smaller scale than that mapped here and as a result have positional inaccuracies. Use of this map should be limited to planning, and should not replace field review or background checks with other sources. Review the "Mapping Layer Descriptions and Sources" page for detailed information about each file, its source, and accuracy. This atlas was produced when only horizontal alignments were considered. When vertical alignments are considered some alignments may be modified.

REFERENCE: Refer to the "Description of Layers", "Acronyms" and "Definitions" pages to find answers to questions that may arise regarding mapping layers.

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3c Page 1 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

N

1:36000
inch = 3000 feet

0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

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Comments:

COVERAGE: I-64/I-164 Interchange to Halfmoon Creek (N of Mackey) in Gibson and Warrick Counties.
CITIES/TOWNS: Elberfeld, Wheatonville, Mackey
STREAM CROSSINGS: Pigeon Creek (mainstem, tributary, tributary longitudinal encroachment (1 mi)), Smith Fork of Pigeon Creek (2 tributaries)
INTEREST: Farmland with scattered homes, Pigeon Creek floodplain and wetland woods, low voltage powerlines (12000), pipelines, Wabash Erie Canal, many oil wells and some gas wells north of Pigeon Creek, extensive wetland complex east of corridor along Pigeon Creek and Big Creek containing managed bottomlands and wetland conservation (S of Buckskin and Rosbud), older farm, older church within working alignment (near I-64 interchange), UST near I-64, possible classified wildlife areas
POTENTIAL INTERCHANGES: SR 68, SR 168
EXISTING INTERCHANGES: I-64/I-164/SR 57
POTENTIAL GRADE SEPARATION: CR 1050 S, CR 650 E
OTHER: The champion black willow is east of the corridor near SR 57/Pigeon Creek. Several state endangered birds and a snake may be present.
PHYSIOGRAPHIC REGION: Boonville Hills (I-64 and south), Wabash Lowland (most)

I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3c Page 2 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
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N

1:36000
inch = 3000 feet

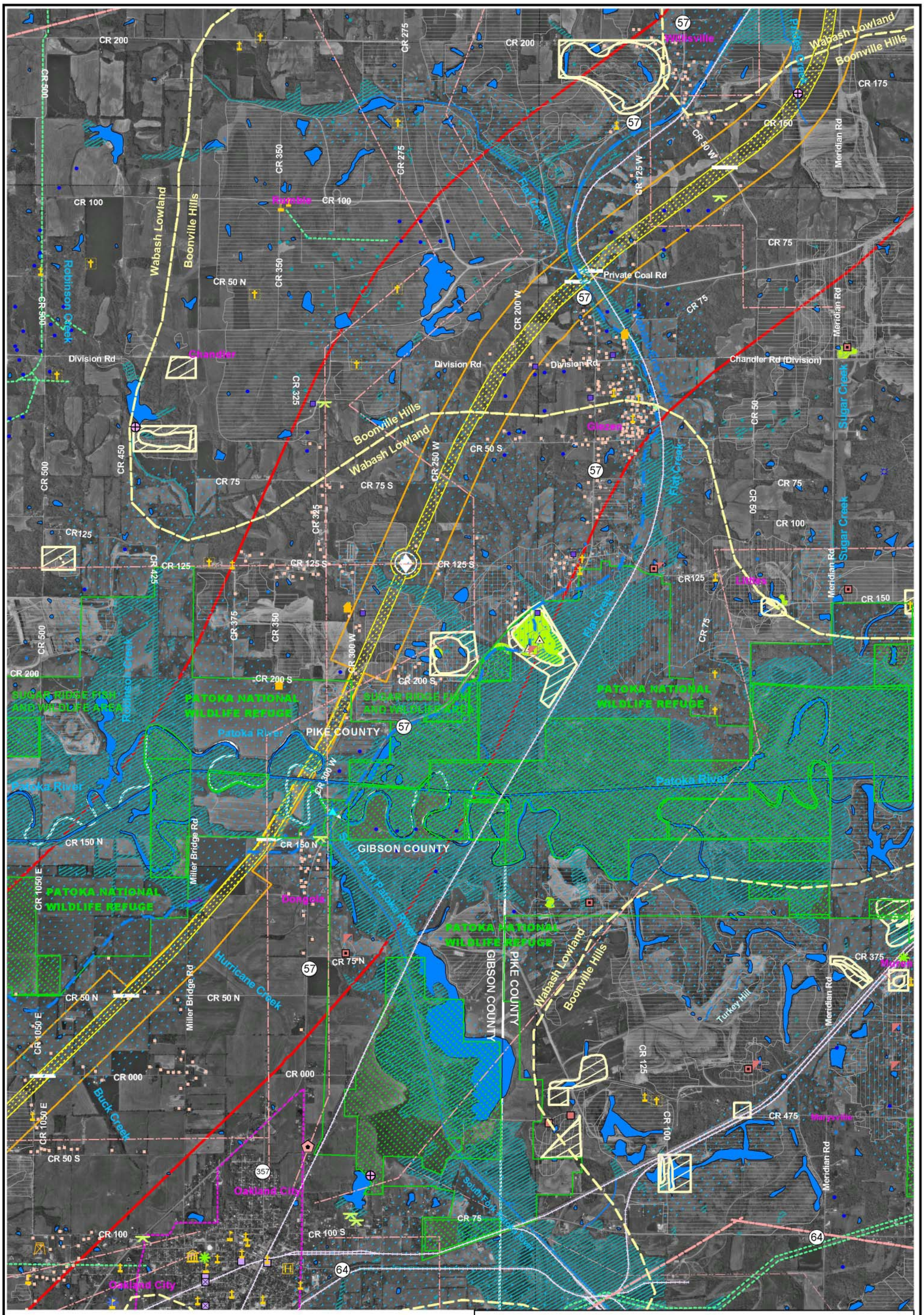
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: CR 600 S, south of Somerville to the Patoka River (Gibson/Pike County Line) in Gibson County.
CITIES/TOWNS: Somerville, Oak Hill, Gudgel, Oakland City
STREAM CROSSINGS: Halfmoon Creek, West Fork of Keg Creek, East Fork of Keg Creek, Buck Creek
INTEREST: Farmland with scattered homes, Keg Creek and Patoka River floodplains, Patoka River wetlands, Patoka National Wildlife Refuge (N, NW of corridor, continued on sheet 3), closed surface mine, pipelines powerlines (1 high voltage, 345,000), RR crossing, oil wells (west)
POTENTIAL INTERCHANGES: SR 64
POTENTIAL GRADE SEPARATION: CR 550 S, CR 350 S, RR Crossing, CR 950 E, CR 000, CR 50 N
OTHER: Federal species (bat) may be present.
PHYSIOGRAPHIC REGION: Wabash Lowland (most), Boonville Hills (SE corner)



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Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

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N

1:36000
inch = 3000 feet

0 0.2 0.4 0.6 0.8 1 Miles
0 1000 2000 3000 4000 5000 Feet
0 500 1000 1500 Meters

Comments:

COVERAGE: Oakland City (Gibson County) to Willisville (Pike County)
CITIES/TOWNS: Oakland City, Dangola (Gibson County), Glezen, Willisville (Pike County)
STREAM CROSSINGS: Buck Creek, Hurricane Creek, South Fork of the Patoka River, Patoka River, Flat Creek (main and 1 tributary), Prides Creek
INTEREST: Farmland with scattered homes, Patoka River wetland woods, river and creek floodplains, Patoka National Wildlife Refuge and Pike State Forest, closed and recent surface coal mines, closed underground coal mine (N of Patoka River), Wabash and Erie Canal (Patoka River (historic culvert and aqueduct) and Flat Creek, powerlines, RR crossing (Flat Creek), oil well fields (north), church (south) recreation area (north)
POTENTIAL INTERCHANGES: CR 125 S (Pike)
POTENTIAL GRADE SEPARATION: CR 000, CR 50 N, CR 150 N, SR 57, RR Crossing, CR 50 W
OTHER: Patoka River South Fork is impaired for an impaired biotic community and the Patoka River is impaired for PCBs and Mercury. Federal species (eagle, bat) may be present. Several state threatened and rare plants along the Patoka River Bottom.
PHYSIOGRAPHIC REGION: Wabash Lowland (south), Boonville Hills (north)

I-69 EVANSVILLE TO INDIANAPOLIS STUDY

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Preferred Alternative 3c Page 4 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Note: GIS data used to create this map are from the best known sources existing at this time. However, experience shows that many national datasets such as cemeteries, churches, airports, schools, karst, etc. are not all inclusive. Some national datasets are created on a much smaller scale than that mapped here and as a result have positional inaccuracies. Use of this map should be limited to planning, but should not replace field review or background checks with other sources.

N

1:36000
inch = 3000 feet

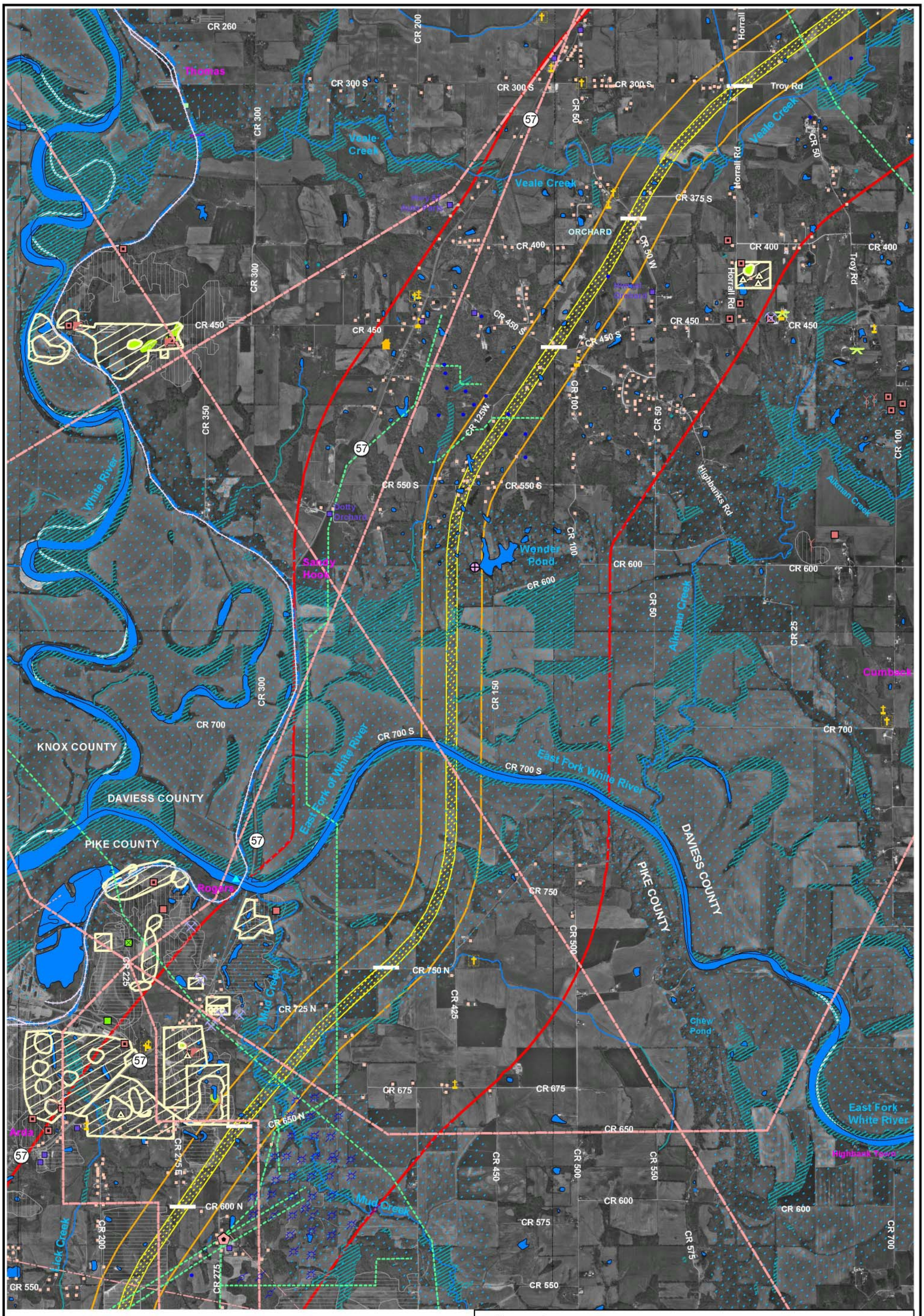
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: Glezen to Mud Creek (NE of Arda) in Pike County
CITIES/TOWNS: Glezen, Willisville, Petersburg, Alford, Arda
STREAM CROSSINGS: Flat Creek, Prides Creek (main and 1 tributary), and Mud Creek
INTEREST: Farmland with clustered homes, forestland area (N of Glezen), Flat Creek and Mud Creek floodplains, Prides Creek wetland woods, closed surface mines, a closed underground mine, Wabash Erie Canal, homes and church potentially eligible for National Register, coal AML areas (north), pipelines, powerlines (high voltage 345,000), RR crossing (Flat Creek), gas well field (Mud Creek), church, recreation area (south), cemetery (Pride's Creek tributary)
POTENTIAL INTERCHANGES: SR 56/61, SR 356
POTENTIAL GRADE SEPARATION: SR 57, RR Crossing, CR 50 W, CR 475 N, CR 600 N, CR 650 N
OTHER: Buffalo trace (proposed for a state scenic trail) goes through the Petersburg-Alford area.
PHYSIOGRAPHIC REGION: Boonville Hills (south), Wabash Lowland (north)



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Preferred Alternative 3c Page 5 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

Note: GIS data used to create this map are from the best known sources existing at this time. However, experience shows that many national datasets such as cemeteries, churches, airports, schools, karst, etc. are not all inclusive. Some national datasets are created on a much smaller scale than that mapped here and as a result have positional inaccuracies. Use of this map should be limited to planning, but should not replace field review or background checks with other sources.

N

1:36000
inch = 3000 feet

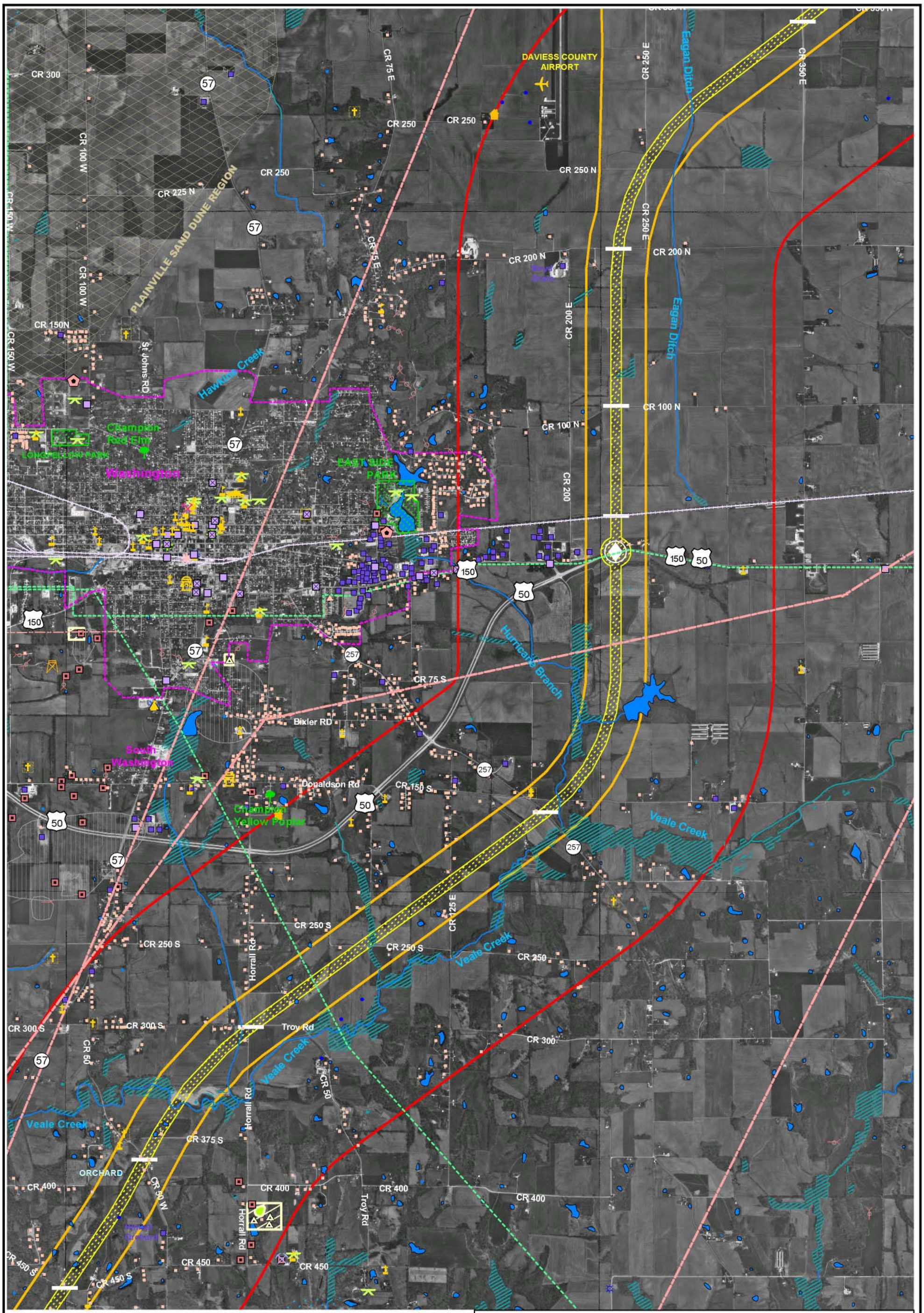
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: Arda (Pike Co) to Veale Creek (Daviess Co) south of Washington.
CITIES/TOWNS: Arda, Rodgers (Pike County), Sandy Hook (Daviess County)
STREAM CROSSINGS: Mud Creek (mainstem and possible longitudinal encroachment), East Fork White River (main channel and tributary), Veale Creek
INTEREST: Farmland, scattered forestland (north), scattered homes (north), floodplain and wetland woods of East Fork White River, Mud Creek floodplain, hilly terrain outside the floodplains, closed underground coal mine, pipelines, high voltage powerlines (345,000 and 1 765,000), orchards (CR 50), schools (CR 450 S), gas well field (S of Mud Creek), oil wells (north of CR 550 S), water tower (CR 450 S), church and cemetery (S of Veale Creek), possible classified forest and classified wildlife area
POTENTIAL GRADE SEPARATION: CR 600 N, CR 650 N, CR 750 N, CR 450 S, CR 50 W, Troy Rd (CR 300 S)
OTHER: Daviess county begins "Amish Country".
PHYSIOGRAPHIC REGION: Wabash Lowland



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

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Preferred Alternative 3c Page 6 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
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N

1:36000
inch = 3000 feet

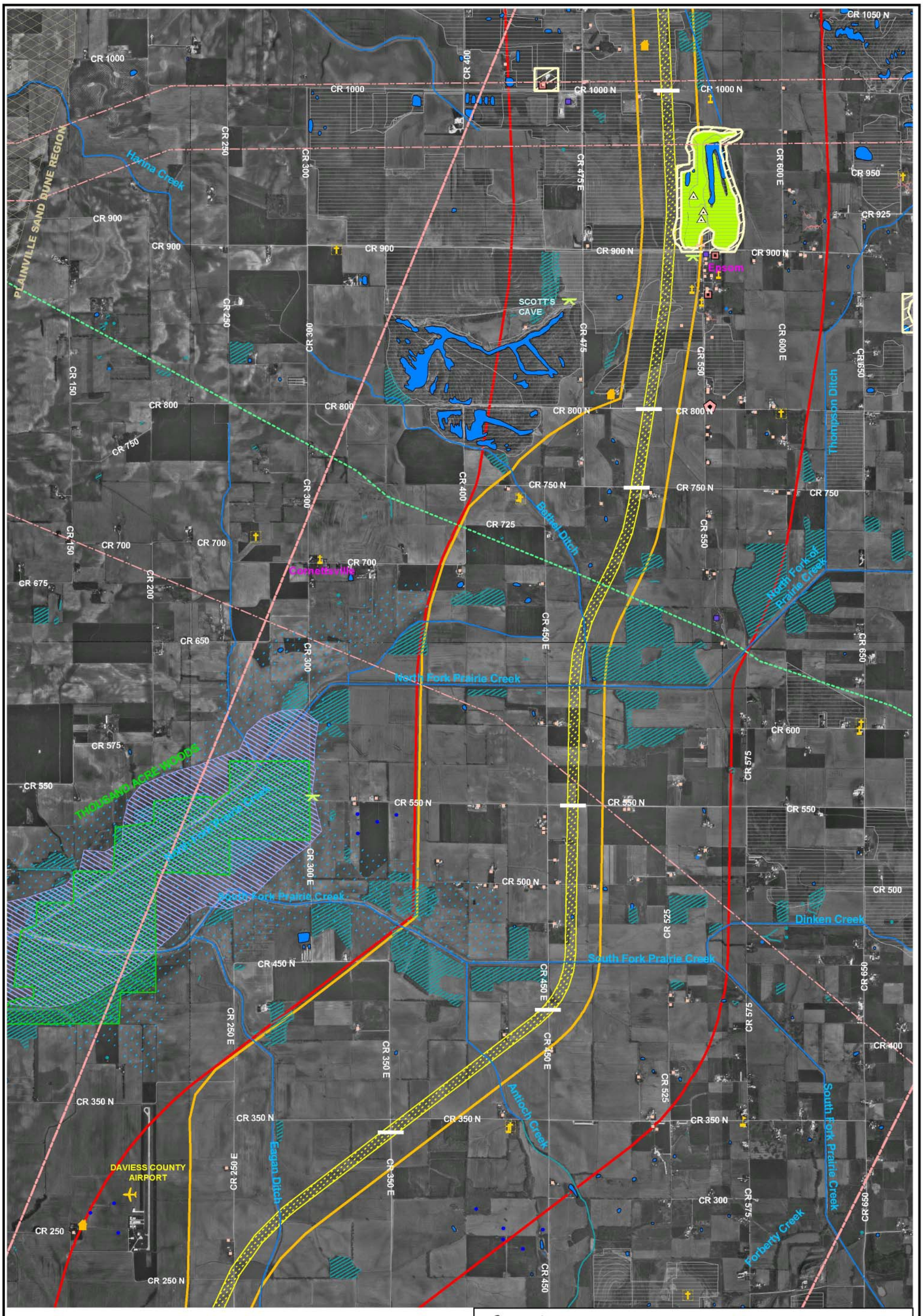
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: CR 450 S (S of Veale Creek) to Eagan Ditch (E of CR 250 E).
CITIES/TOWNS: Washington, South Washington (Daviess County)
STREAM CROSSINGS: Veale Creek (mainstem and tributary), Hurricane Branch of Veale Creek (mainstem and tributary), Eagan Ditch
INTEREST: Farmland, scattered homes and few businesses (US 150/50), Veale Creek wetlands, lake near Hurricane Branch, natural gas pipelines, high voltage powerline (345,000), RR crossing, Daviess County Airport (north), water tower/tank (south), churches and cemeteries, orchard (S of Veale Crk), possible classified forest, some hilly terrain.
POTENTIAL INTERCHANGES: US 50/US 150
POTENTIAL GRADE SEPARATION: CR 450 S, CR 50 W, CR 300 S, SR 257, RR Crossing, CR 100 N, CR 200 N, CR 350 E
OTHER: Plainville Sand Dune Region (NW corner), US 150 is a proposed State Scenic Byway. In the north, the corridor is widened beyond 2000 feet to provide additional flexibility for impact avoidance/minimization in Tier 2.
PHYSIOGRAPHIC REGION: Wabash Lowland



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

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Preferred Alternative 3c

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

N

1:36000
inch = 3000 feet

0 0.2 0.4 0.6 0.8 1 Miles

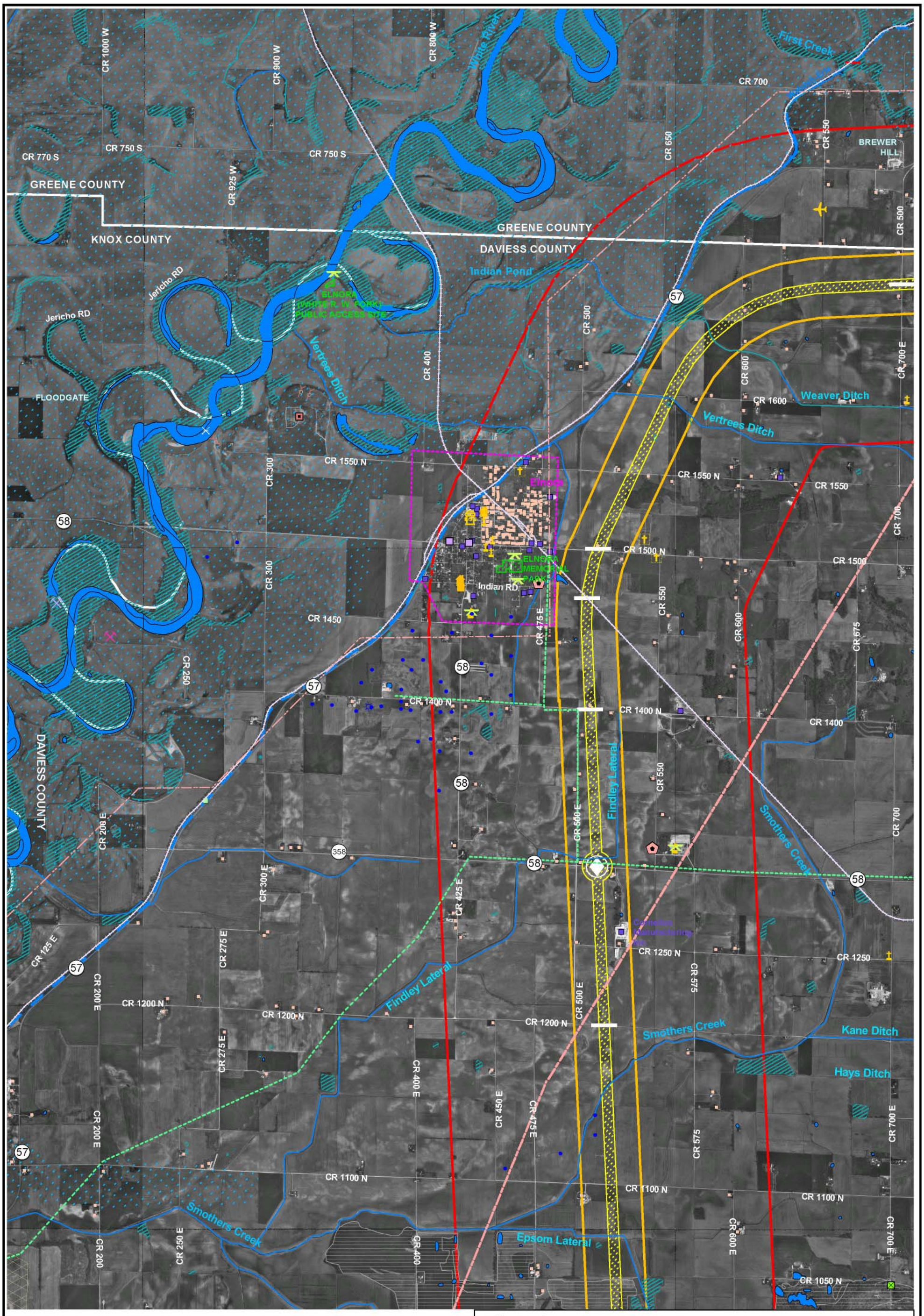
0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Note: GIS data used to create this map are from the best known sources existing at this time. However, experience shows that many national datasets such as cemeteries, churches, airports, schools, karst, etc. are not all inclusive. Some national datasets are created on a much smaller scale than that mapped here and as a result have positional inaccuracies. Use of this map should be limited to planning, but should not replace field review or background checks with other sources.

Comments:

COVERAGE: Eagan Ditch (E of CR 250 E) to CR 1000 N (N of Epsom).
CITIES/TOWNS: Cornettsville, Epsom (Daviess County)
STREAM CROSSINGS: Eagan Ditch, Antioch Creek, South Fork of Prairie Creek, North Fork of Prairie Creek
INTEREST: Farmland with widely scattered homes, wetlands and floodplains along forks of Prairie Creek, Thousand Acre Woods (Nature Conservancy), pipeline, powerline, Daviess County Airport (South), possible classified forests, Near Epsom: churches, recreation area, closed surface coal mines, coal AML and refuse area (N), home and farm potentially eligible for National Register, older home, Scott's Cave (W of CR 475 E)
POTENTIAL GRADE SEPARATION: CR 350 E, CR 450 E, CR 550 N, CR 750 N, CR 800 N, CR 1000 N
OTHER: South Fork Prairie Creek and North Fork Prairie Creek are impaired for pathogens; State endangered Loggerhead Shrike may be present. The corridor is widened beyond 2000 feet to provide additional flexibility for impact avoidance/minimization in Tier 2.
PHYSIOGRAPHIC REGION: Wabash Lowland



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Preferred Alternative 3c Page 8 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

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N

1:36000
inch = 3000 feet

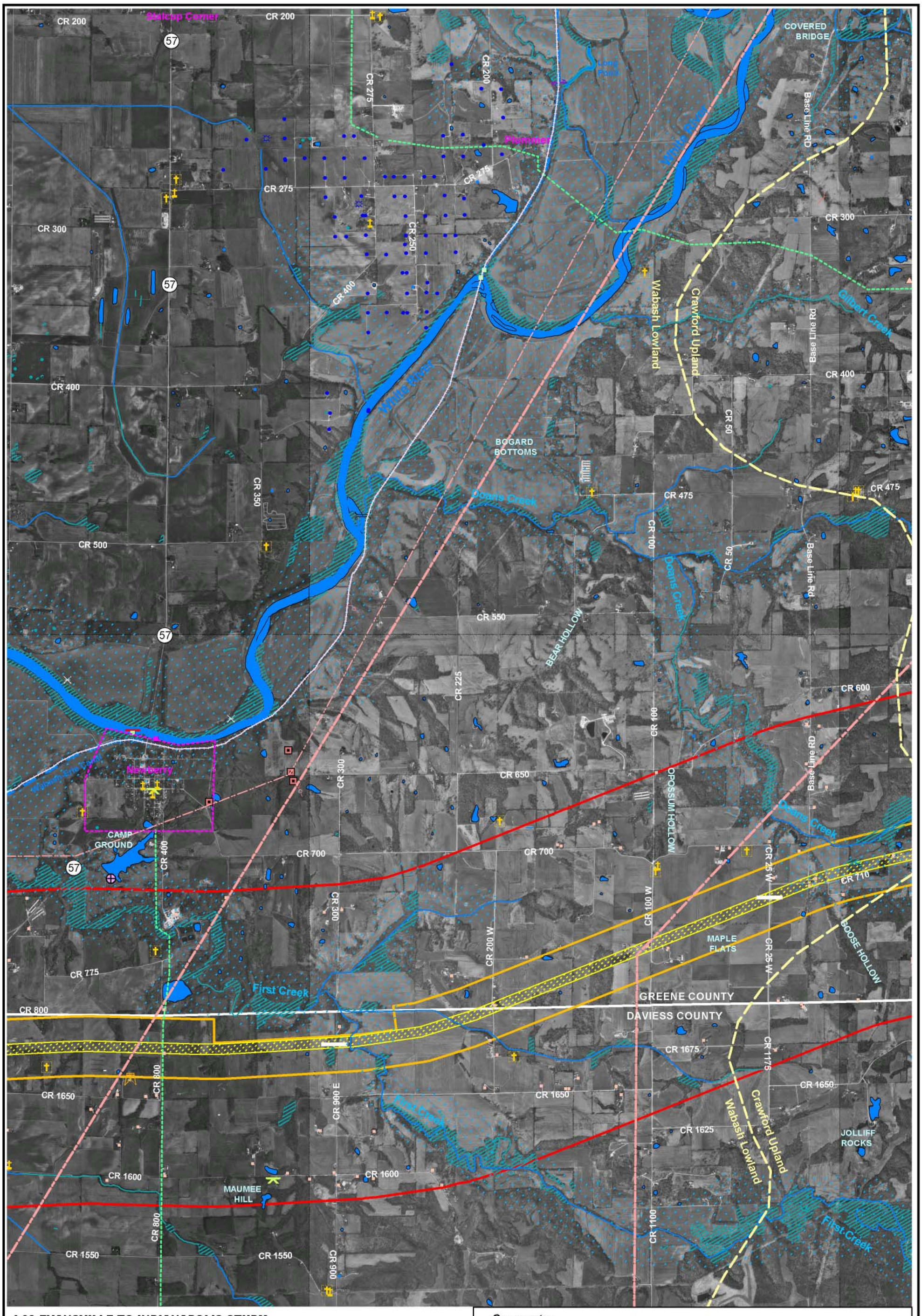
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: CR 1100 N (N of Epsom) to CR 700 E (NE of Elnora) in Daviess County
CITIES/TOWNS: Elnora (Daviess County)
STREAM CROSSINGS: Epsom Lateral, Smothers Creek, Findley Lateral, Vertrees Ditch, Weaver Ditch
INTEREST: Farmland with scattered homes, large business (CR 1250 N), pipeline, high voltage powerline (345,000), public water supply wells (S of SR 58), oil field (S of Elnora), oil wells (Smothers Creek)
POTENTIAL INTERCHANGES: SR 58
POTENTIAL GRADE SEPARATION: CR 1200 N, CR 1400 N, RR crossing, CR 1500 N, CR 700 E
OTHER: Badger Badlands is located in the SW corner of the sheet. Federal species (mollusk) observed in the White River (NW)
PHYSIOGRAPHIC REGION: Wabash Lowland



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

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Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
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N

1:36000
inch = 3000 feet

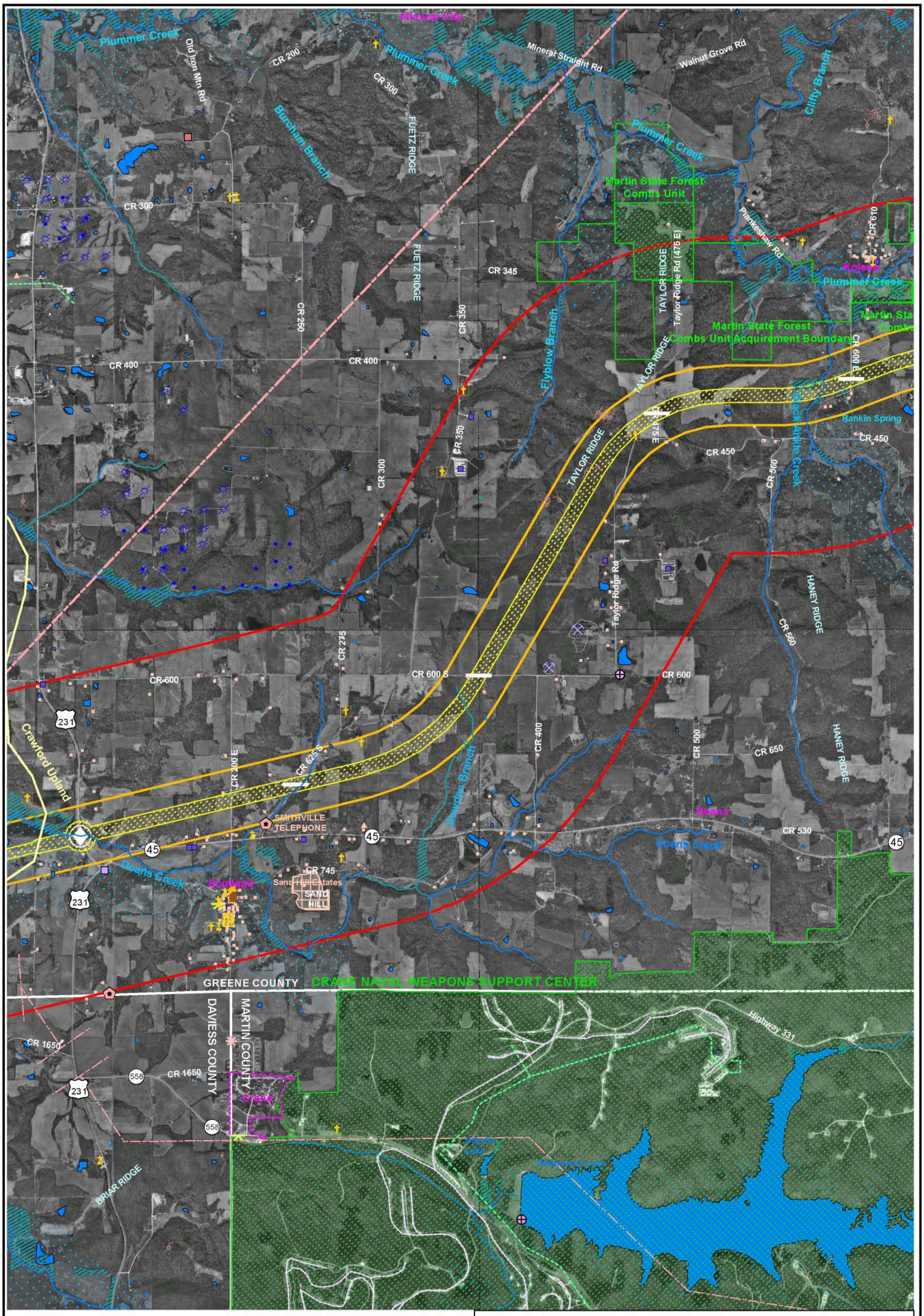
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: South of Newberry to Doans Creek (Daviess and Greene Counties)
CITIES/TOWNS: Newberry (Greene County)
STREAM CROSSINGS: First Creek (mainstem and tributary)
INTEREST: Farmland with scattered homes, terrain becoming hilly, First Creek and Doans Creek wetland woods and floodplains, pipeline, high voltage powerlines (345,000), older house very near conceptual working alignment (west), cemetery (west), Maple Flats, Goose Hollow, possible classified forest, tower (S of Newberry)
POTENTIAL GRADE SEPARATION: CR 700 E, CR 900 E/CR 300 W, CR 25 W
OTHER: Crane Naval Weapons Support Center is approximately 1.5. miles SE. State endangered Loggerhead Shrike may be present. First Creek is impaired for pathogens.
PHYSIOGRAPHIC REGION: Wabash Lowland, beginning Crawford Uplands



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3c

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

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N

1:36000
inch = 3000 feet

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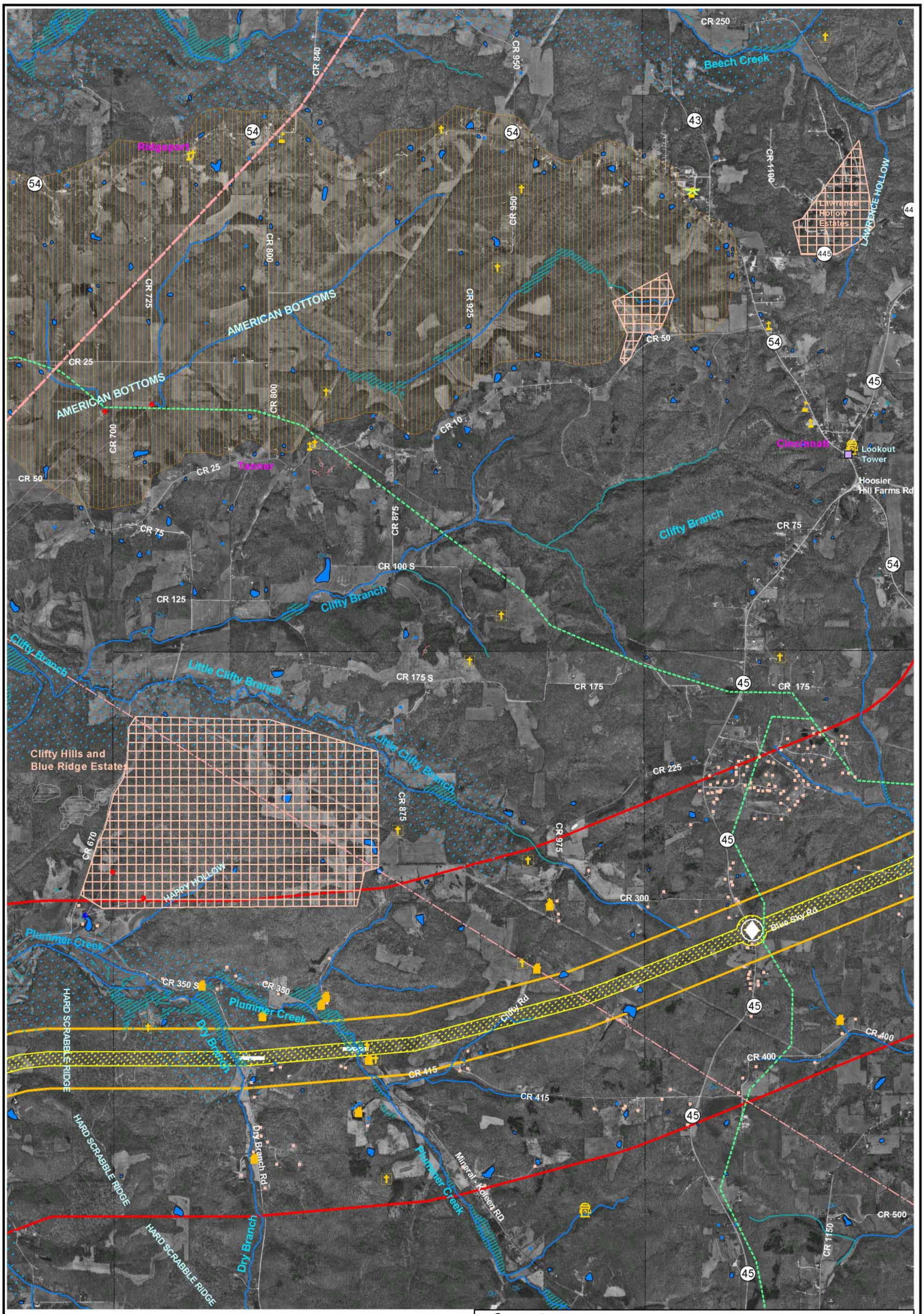
0 500 1000 1500 Meters

Comments:

COVERAGE: Doans Creek (NW of Scotland) to Plummer Creek (S of Koleen) in Greene County
CITIES/TOWNS: Scotland, Doans, Koleen
STREAM CROSSINGS: Doans Creek: mainstem, tributary, and Dowden Branch; Black Ankle Creek
INTEREST: Farmland with forestland increasing to the East, few homes, Doans Creek floodplain, increasingly hilly terrain moving East, Crane Naval Weapons Support Center (S), Taylor Ridge, old underground mine entries (Taylor Ridge), Smithville Telephone Substation, gas well field (NW sheet), Rankin Spring and Cave (E of Black Angle Creek, 185 feet S of working alignment) cemetery very near working alignment (CR 475E/CR 450), likely classified forests, likely classified wildlife area, Martin State Forest Combs Unit, Rankin Spring
POTENTIAL INTERCHANGES: SR 231
POTENTIAL GRADE SEPARATION: CR 625 S, CR 600 S, CR 475 E, CR 600 E
OTHER: Federal species (bat and eagle) may be present.
PHYSIOGRAPHIC REGION: Crawford Upland



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N

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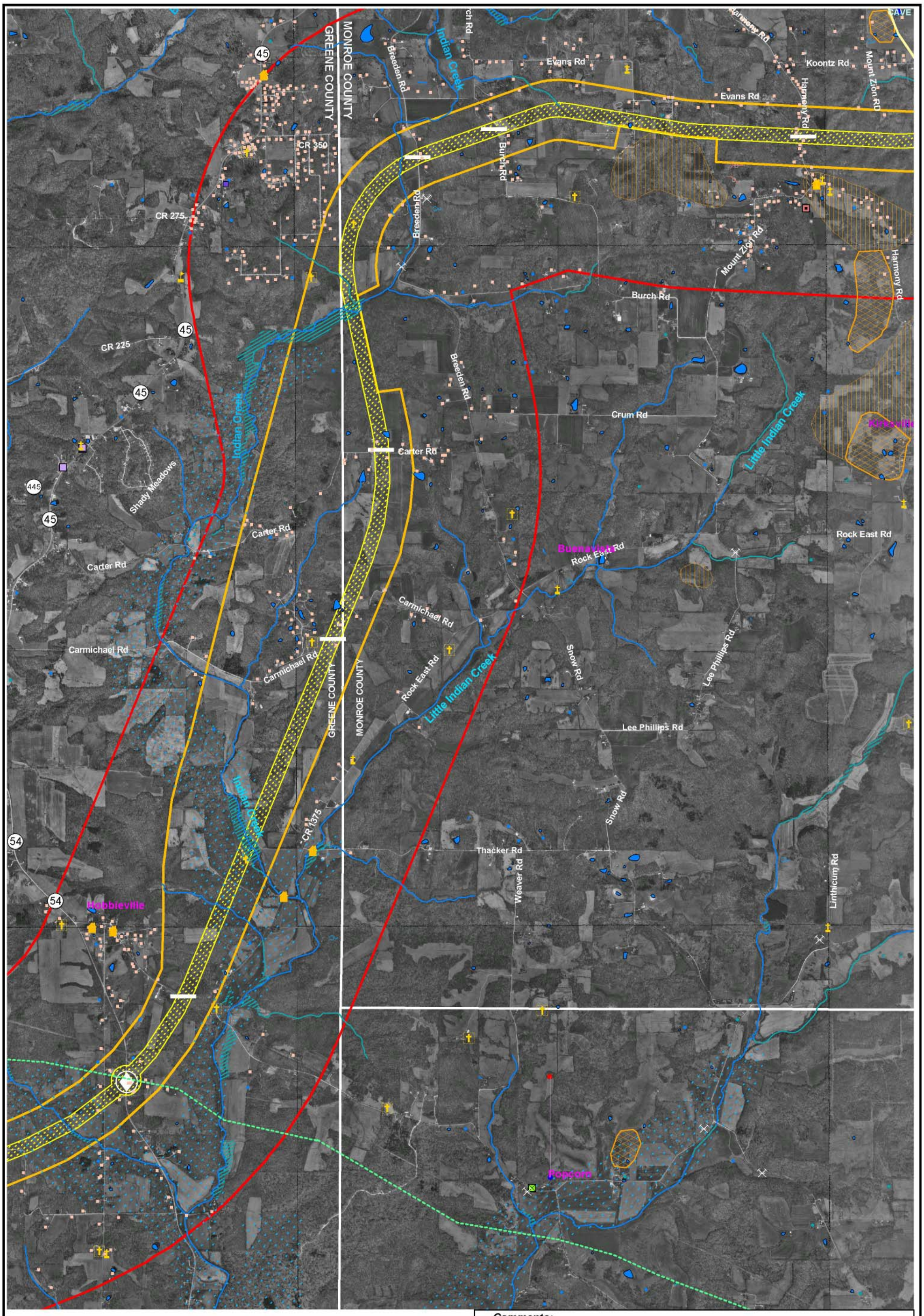
0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: Hard Scrabble Ridge E of Koleen to Hobbieville (Greene County)
CITIES/TOWNS: Hobbieville, Tanner, Cincinnati (Greene County)
STREAM CROSSINGS: Dry Branch of Plummer Creek, Plummer Creek (mainstem and tributary)
INTEREST: Forestland, few homes, very hilly terrain, creek floodplains, Hard Scabble Ridge, pipeline, powerline, Karst dye tracing studies (N Plummers Crk), cemetery within working alignment (E Plummer Crk), Ashcraft chapel and cemetery potentially eligible for National Register (very near working alignment), Valhalla home potentially eligible for National Register (S), high likelihood of several classified forests, scattered caves and springs throughout the sheet (none within working alignment)
POTENTIAL INTERCHANGES: SR 45
POTENTIAL GRADE SEPARATION: Dry Branch Rd, Mineral-Koleen Rd
OTHER: Plummer Creek is impaired for pathogens. American Bottoms is located within a sinking stream basin north of the 2-mile wide study band. Federal species (bat) may be present. Indiana bat hibernaculum Ashcraft cave (N of Plummer Creek) is with the study band, Natural area registry sites Ray's Cave (5 miles north of study band) and Clifty Branch Canyon are present on the sheet, but not within the study band.
PHYSIOGRAPHIC REGION: Crawford Upland



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
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Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
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N

1:36000
inch = 3000 feet

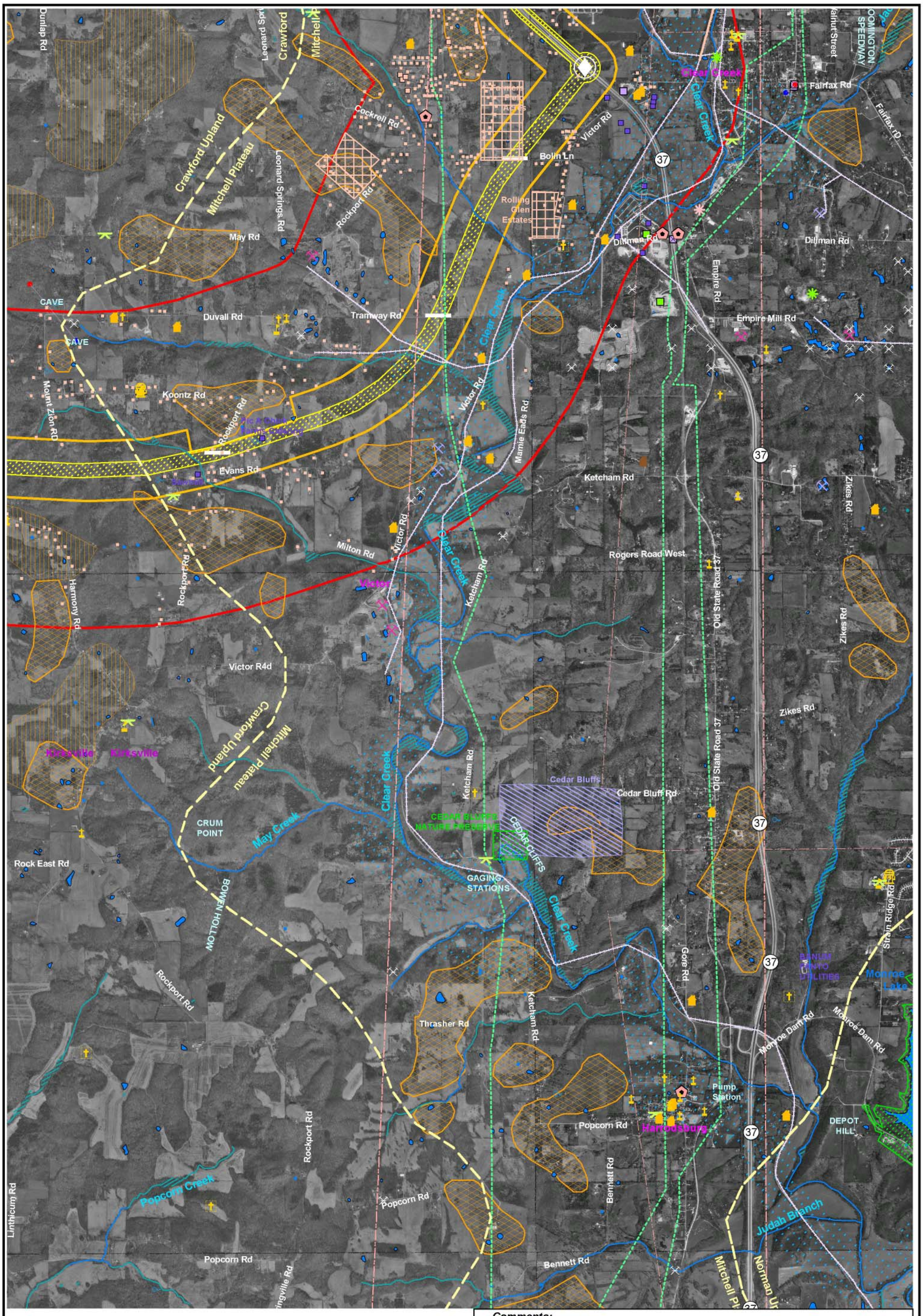
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: Mitchell Branch of Indian Creek (Greene Co) to Mount Zion Road (Monroe Co)
CITIES/TOWNS: Hobbieville (Green Co) and Buenavista (Monroe Co)
STREAM CROSSINGS: Mitchell Branch of Indian Creek, Indian Creek (3 mainstem crossings, 1 tributary)
INTEREST: Mixture of forestland and farmland, Indian Creek floodplain and occasional wetland woods, homes along existing county and state roads, pipeline, older cemeteries very near/within working alignment (Storm, Carmichael, Adams), county bridges potentially eligible for National Register (W of working alignment over Indian and Little Indiana Creeks), several caves/springs between Carmichael Rd and Carter Rd (2 within working alignment), scattered caves increasing to the east, classified forest possible
POTENTIAL INTERCHANGES: SR 54
POTENTIAL GRADE SEPARATION: Hobbieville Rd (CR 190 S), Carmichael Rd, Carter Rd, Breeden Rd, Burch Rd, Harmony Rd
OTHER: Federal species (bat) may be present. Troglobitic crayfish may be present. Sexton springs cave (Indiana bat hibernaculum near Indian Creek south of the working alignment), Virginia Iron Works industrial archaeology site (immediately east of working alignment near Breeden Rd). The corridor has been widened beyond 2000 feet to provide additional flexibility for impact avoidance/minimization in Tier 2.
PHYSIOGRAPHIC REGION: Crawford Upland



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
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Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
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N

1:36000
inch = 3000 feet

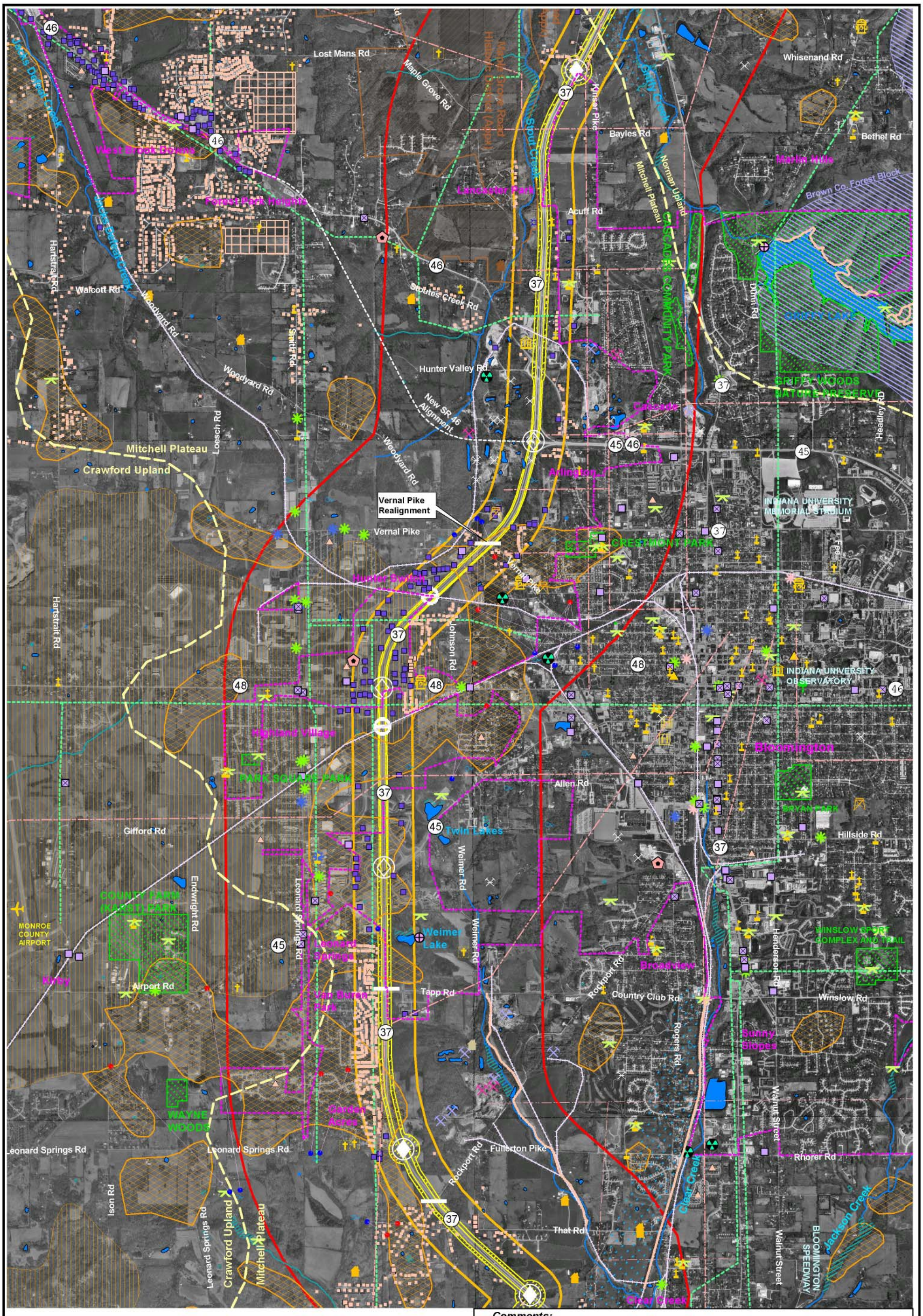
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: Rockport Rd W of Victor to Bolin Rd S of Clear Creek in Monroe County
CITIES/TOWNS: Victor, Clear Creek
STREAM CROSSINGS: Clear Creek tributary
INTEREST: Scattered farmland and forestland, karst geology near the corridor, powerline, pipeline, many old quarries between Victor and Sanders, structures and farms potentially eligible for National Register near the RR lines, possible classified forest, UST (W of SR37 interchange), several caves and springs near Rockport Rd, Pick-a-Chick spring cave is within the working alignment, scattered caves throughout the sheet
POTENTIAL INTERCHANGES: SR 37
POTENTIAL GRADE SEPARATION: Rockport Rd, Tramway Rd, Bolin Rd
OTHER: Clear Creek tributary is impaired for pathogens. Cedar Bluffs are listed on the natural area registry. Federal species (bat) may be present. Leonard Springs cave (Indiana bat hibernaculum) is in the NW corner of the sheet. State listed troglobitic species may be present in the NW, while several state listed plants were found in the SE near Clear Creek.
PHYSIOGRAPHIC REGION: Crawford Upland (west), Mitchell Plateau (most)



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3c Page 14 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1201

N

1:36000
inch = 3000 feet

0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

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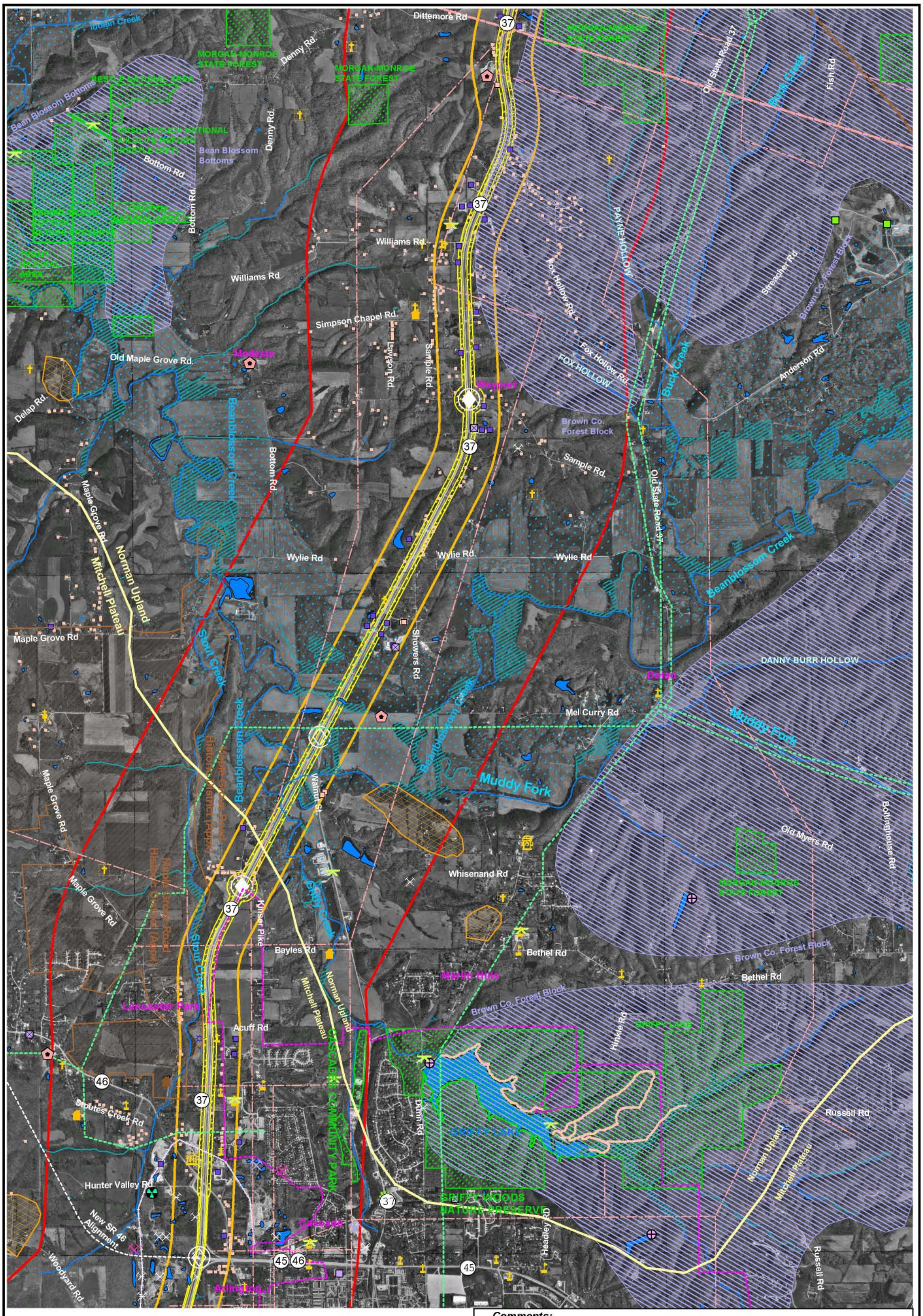
Comments:

COVERAGE: Clear Creek to N of Kinser Pike in Monroe County
CITIES/TOWNS: Clear Creek, Bloomington and suburbs: Garden Acres, Leonard Springs, Highland Village, Hunter Switch, Arlington, Cascade, Lancaster Park
STREAM CROSSINGS: Stout Creek (possible longitudinal encroachment)
INTEREST: Scattered farmland and forestland with large clusters of homes and businesses including apartment complexes along existing SR 37 near the working alignment, karst geology and dye tracing studies, pipelines, powerlines, USTs (Vernal Pike), school and recreation sites, IVY Tech, tower, park (town of Leonard Springs), old quarries (SR 37/SR 45), gas well (S of Lancaster Park), sewage treatment plant (Tapp Rd), 3 superfund sites within the study band, older farm, National Register historic home, Maple Grove Road Historic District (National Register), homes, farms, and bridge (Stout Crk) potentially eligible for National Register, churches, possible classified forest area, scattered cave and spring areas throughout the sheet
POTENTIAL INTERCHANGES: SR37, Fullerton Pike, Kinser Pike
EXISTING INTERCHANGES: SR 45, SR 48, SR 45/46,
POTENTIAL GRADE SEPARATION: Rockport Rd, Tapp Rd, Vernal Pike
EXISTING GRADE SEPARATION: 2 RR crossings
OTHER: Stout Creek is impaired for PCBs and Mercury. Federal species (bat) may be present. Federal species, American Burying Beetle, was recorded in the past.
PHYSIOGRAPHIC REGION: Mitchell Plateau



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3c

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1201

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N

1:36000
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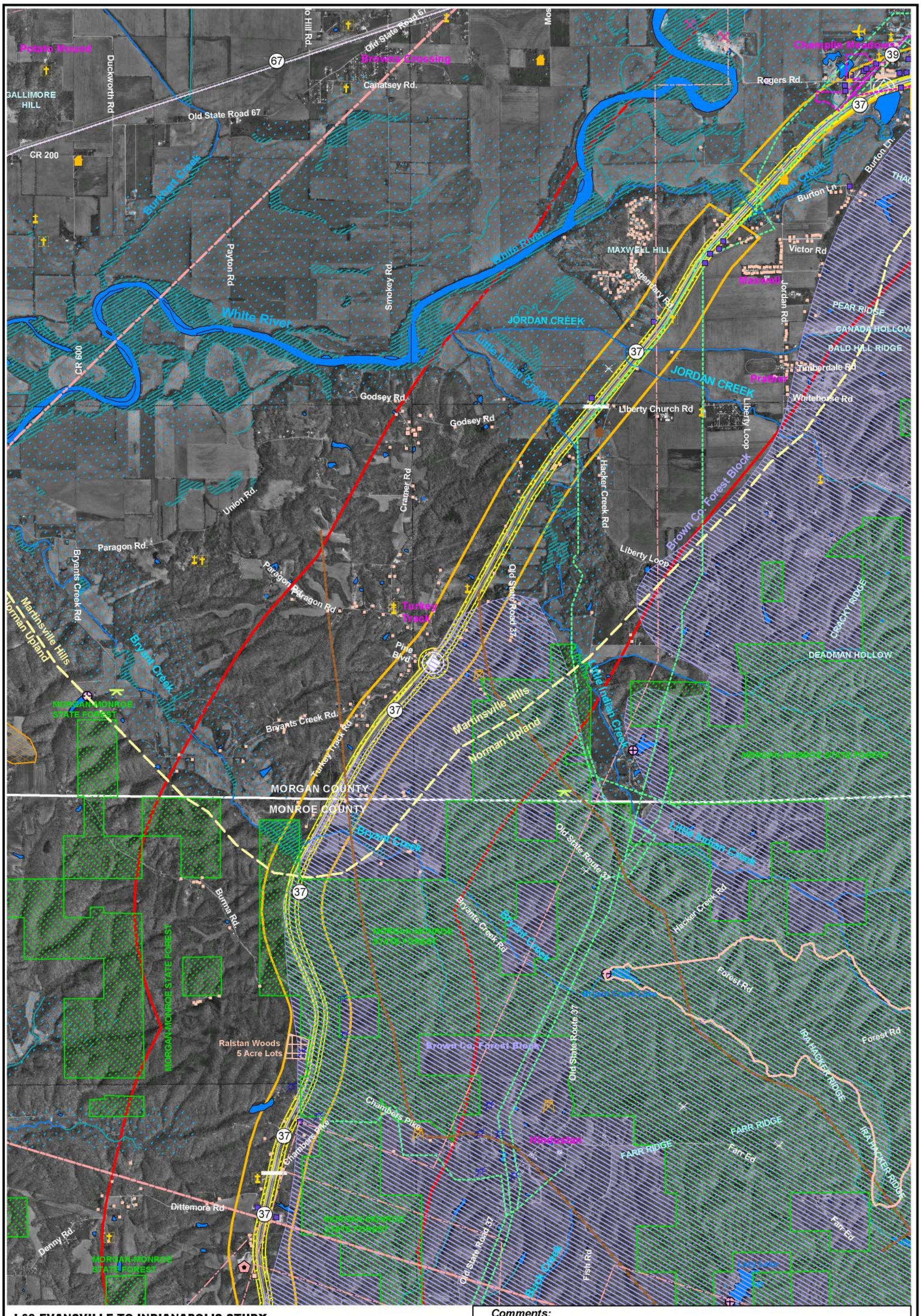
0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

0 500 1000 1500 Meters

Comments:

COVERAGE: Along SR 37 from Arlington (Bloomington) to Dittemore Rd.
CITIES/TOWNS: Arlington, Lancaster Park, Wayport (Monroe County)
STREAM CROSSINGS: Stout Creek (longitudinal encroachment), Griffy Creek, Beanblossom Creek
INTEREST: Farmland and forestland, hilly terrain surrounding the Beanblossom floodplain, scattered homes, Lancaster Park subdivision, Beanblossom Creek, Brown County Forest Block (East), Beanblossom Nature Preserve and related natural areas (West), Muscatatuck National Wildlife Refuge (Restle Unit), pipelines, powerlines, Leaking USTs, Superfund site (south), recreation areas, school, public water site, substation, old quarries (SR 45/SR 46), National Register historic home, Maple Grove Road Historic District (National Register), older home (within working alignment), churches, cemeteries (N and S of Wayport), very likely classified forest and classified wildlife area, new alignment for SR 46 (S), few caves and springs to the south
POTENTIAL INTERCHANGES: Kinser Pike, Sample Road
EXISTING INTERCHANGES: SR 45/SR 46, Walnut Street
OTHER: Stout Creek is impaired for PCBs and Mercury. Beanblossom Creek is impaired for pathogens.
PHYSIOGRAPHIC REGION: Mitchell Plateau (south), Norman Upland (north)



I-69 EVANSVILLE TO INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3c

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
DATE: 2003 v.1118

N

1:36000
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0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

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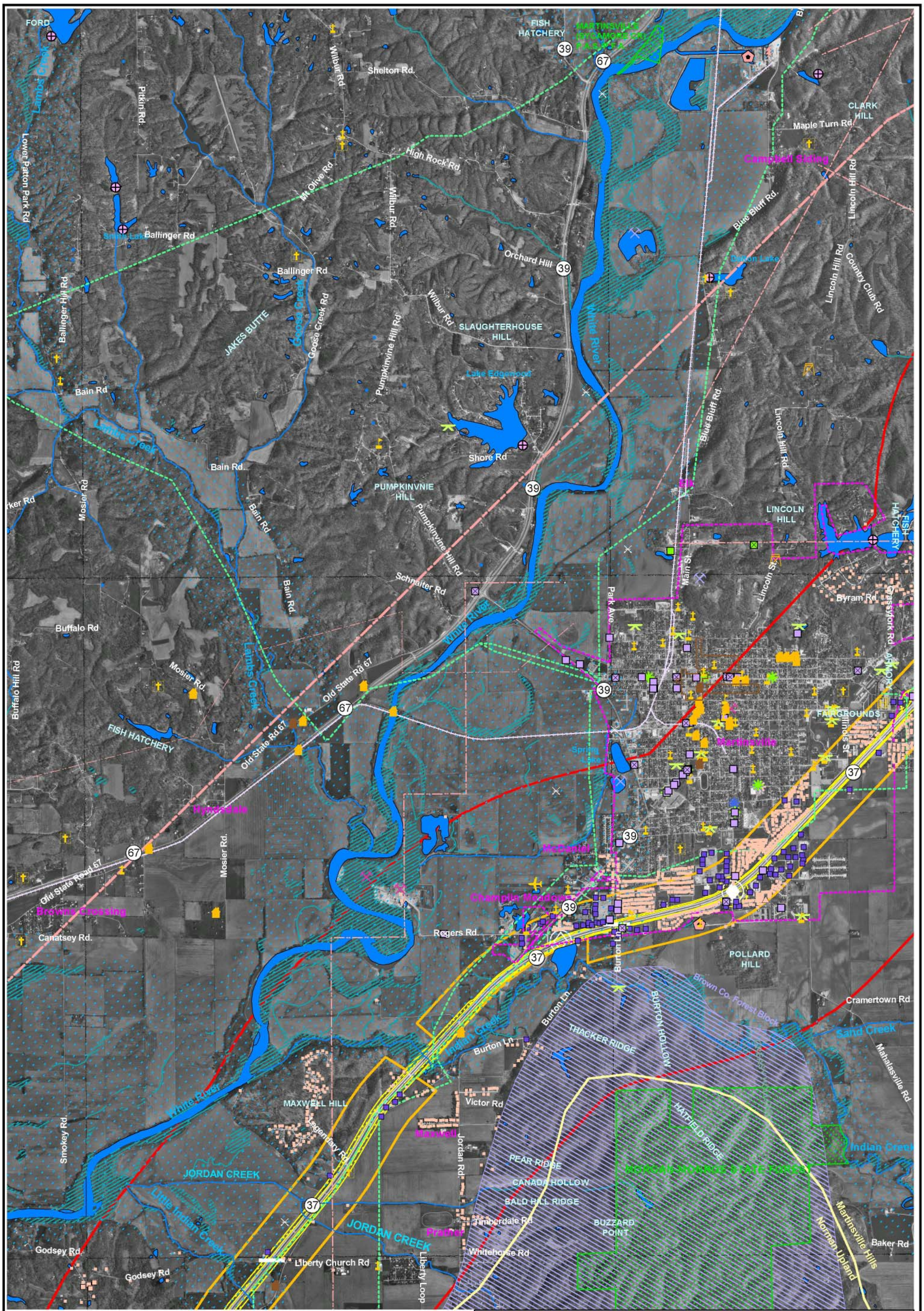
Comments:

COVERAGE: Along SR 37 from SW of Hindustan (Monroe Co) to SR 37/SR 39 at Champlain Meadows (Morgan Co)
CITIES/TOWNS: Turkey Track, Maxwell, Champlain Meadows (Morgan Co)
STREAM CROSSINGS: Bryant Creek, Little Indian Creek, Jordan Creek, Indian Creek
INTEREST: Forestland (south), and farmland (north) with scattered homes, hilly terrain in the Norman Upland changing sharply at the physiographic region change to Martinsville Hills, floodplains and wetlands of White River, Indian and Little Indian Creeks, Brown County Forest Block and Morgan-Monroe State Forest, Ralstan Woods subdivision, pipelines, powerlines, Leesville Anticline, Mt Carmel Fault, substation (south), old sand pit, gas wells (south), water tank (Liberty Church Rd), wastewater treatment (Champlain Meadows), National Register historic school, bridge (224) over Indian Creek potentially eligible for National Register, churches, cemeteries (1 within the working alignment), very likely classified forest
POTENTIAL INTERCHANGES: Old SR 37
EXISTING INTERCHANGES: SR 37 (north)
POTENTIAL GRADE SEPARATION: Chambers Pike, Liberty Church Rd
OTHER: Federal species (eagle) may be present. Indian Creek is impaired for pathogens.
PHYSIOGRAPHIC REGION: Norman upland (south), Martinsville Hills (north)



I-69 EVANSVILLE TO INDIANAPOLIS STUDY
Tier 1 Environmental Impact Statement

Preferred Alternative 3c Page 17 of 20

Bernardin, Lochmueller & Associates, Inc.
UTM 16, NAD83, meters
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inch = 3000 feet

0 0.2 0.4 0.6 0.8 1 Miles
0 1000 2000 3000 4000 5000 Feet
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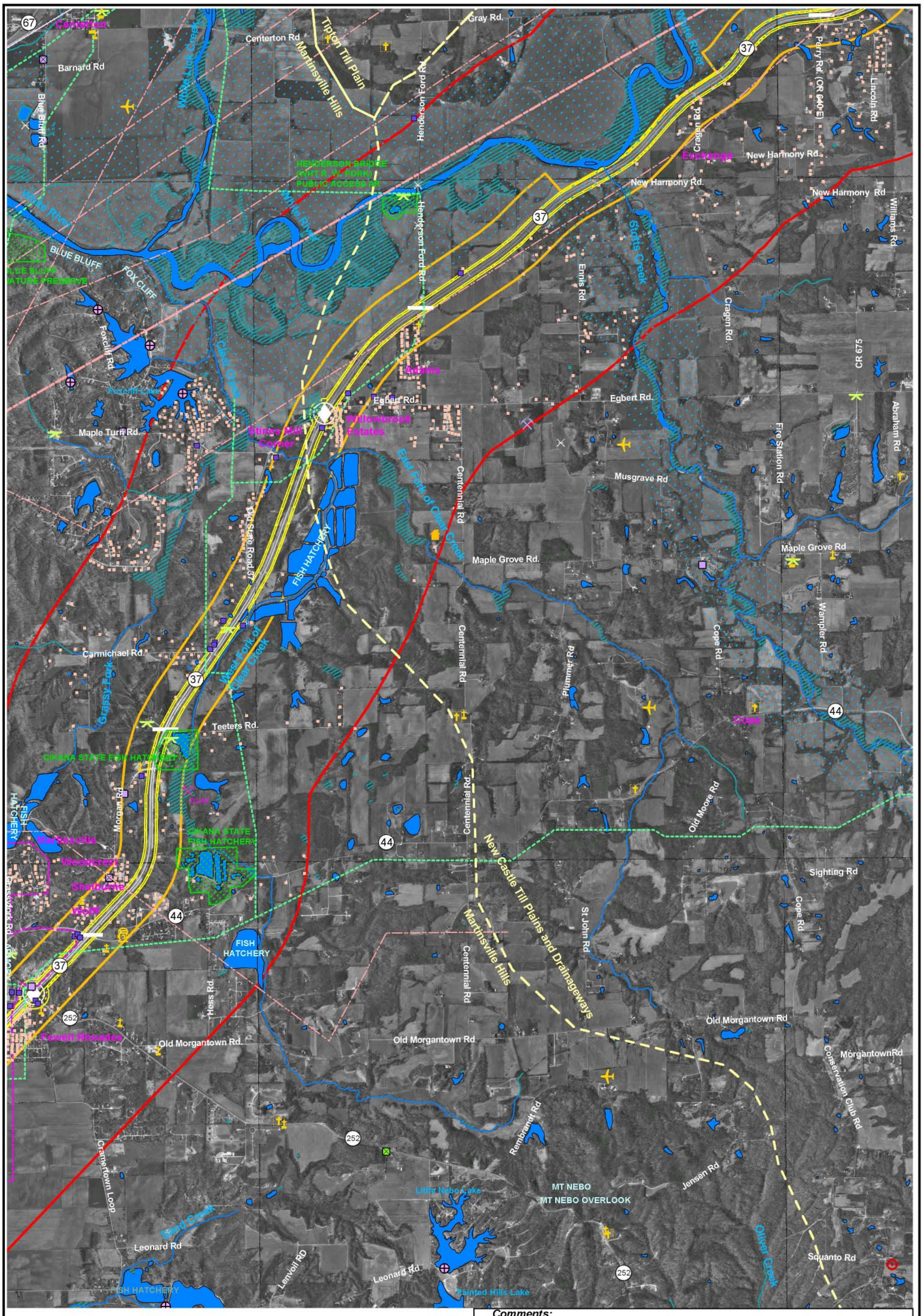
Comments:

COVERAGE: Along SR 37 from Liberty Church Rd SW of Prather to east of Martinsville
CITIES/TOWNS: Prather, Maxwell, Champlain Meadows, Martinsville (Morgan Co)
STREAM CROSSINGS: Little Indian Creek, Jordan Creek, Indian Creek
INTEREST: Farmland with forestland areas, some forested, hilly terrain; many homes, businesses, USTs, leaking USTs, pipelines, powerline, possible RCRA site (Burton Rd), hospital, trailer park, power station, older farm, National Register historic schoolhouse, bridge (224) over Indian Creek potentially eligible for National Register, churches (one within working alignment), cemeteries (within working alignment N of Jordan Creek), possible classified forest
POTENTIAL INTERCHANGES: SR 252, Mahallasville Rd
EXISTING INTERCHANGES: SR 37
POTENTIAL GRADE SEPARATION: Liberty Church Rd, Burton Lane, Mahalasville Rd
OTHER: Indian Creek is impaired for pathogens.
PHYSIOGRAPHIC REGION: Martinsville Hills



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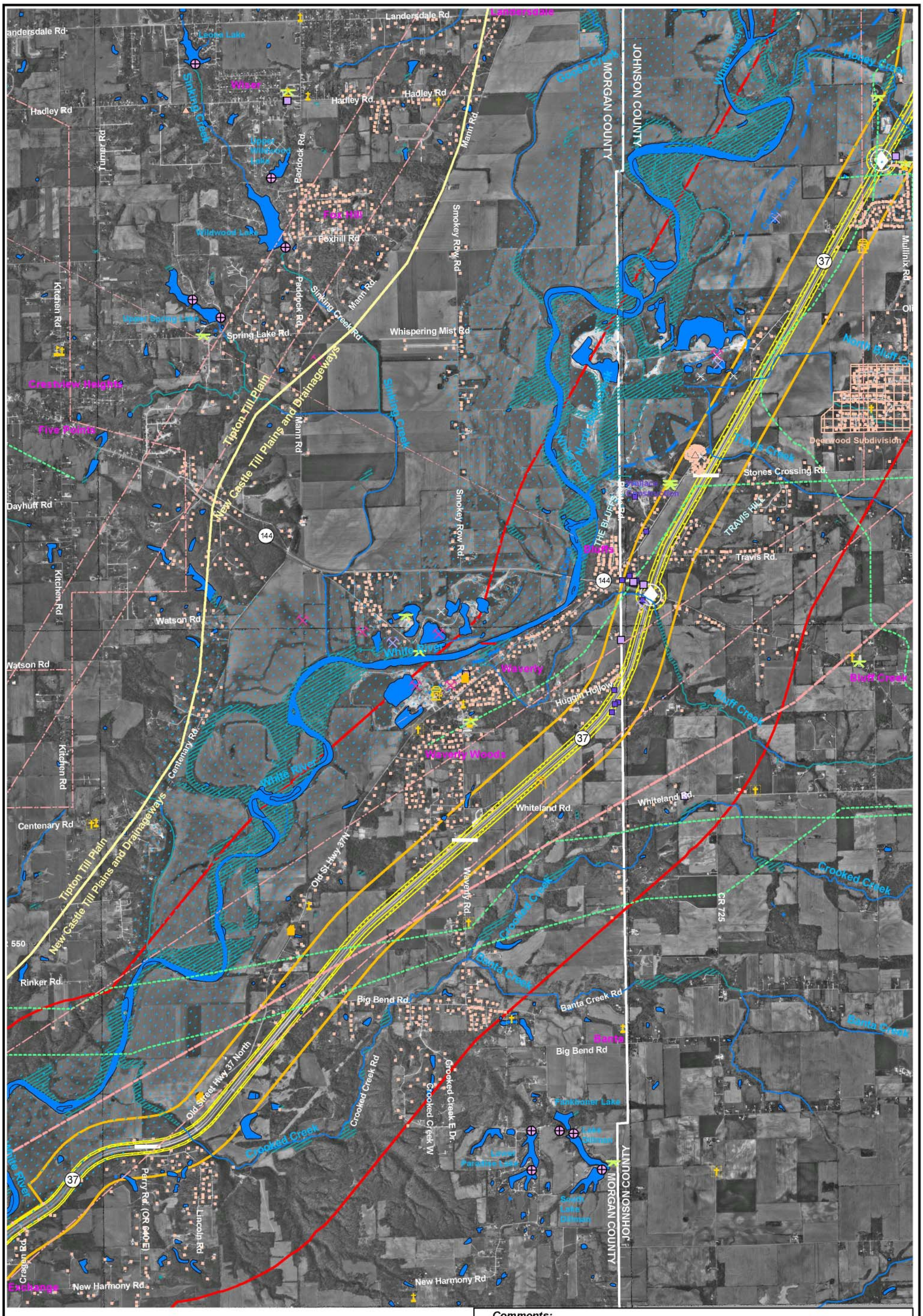
Comments:

COVERAGE: Fewell Rhoades(E of Martinsville) to Exchange in Morgan County
CITIES/TOWNS: Fewell Rhoades, Wolff, Shelburne, Woodcrest, Stings Mill Corner, Willowbrook Estates, Adams, Exchange
STREAM CROSSINGS: West Fork of Clear Creek (longitudinal encroachment), Clear Creek, Stotts Creek, White River (longitudinal encroachment)
INTEREST: Forestland (Martinsville Hills Region) and farmland (New Castle Till Plains and Drainageways Region), many homes, businesses, subdivisions, floodplain of White River and Stotts Creek, Cikana State Fish Hatchery, several fish hatercheries (west), USTs and leaking UST , pipelines, powerlines, fire depearment, recreation areas (Carmichael Rd and Teeters Rd), schools (Wolff), communication towers, clay pit, churches (near Martinsville), cemetery (Adams)
POTENTIAL INTERCHANGES: SR 252, south of Egbert Rd (Willowbrook Estates)
POTENTIAL GRADE SEPARATION: SR 44, Teeters Rd, Henderson Ford Rd, Perry Rd
OTHER: Blue Bluff Nature Preserve is 2 mi NW of Stines Mill Corner. White River is impaired for PCBs, mercury, cyanide, pathogens, and an impaired biotic community. The variable corridor is reduced to 160 feet at the White River, recognizing no frontage road would be built in this area.
PHYSIOGRAPHIC REGION: Martinsville Hills (west), New Castle Till Plains and Drainageways (east)



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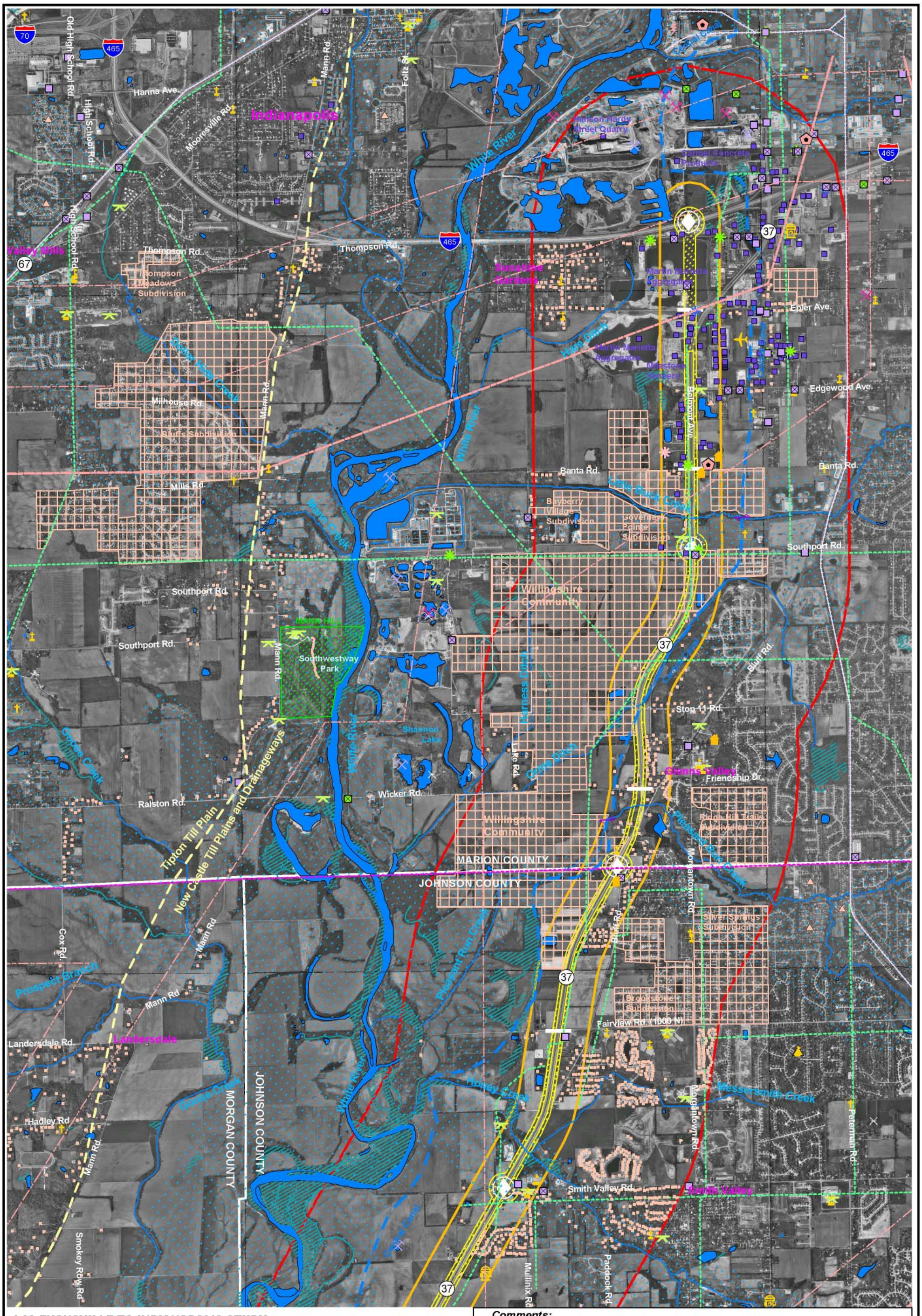
Comments:

COVERAGE: Exchange to Honey Creek in Morgan County
CITIES/TOWNS: Exchange, Waverly Woods, Waverly, Bluffs
STREAM CROSSINGS: Crooked Creek, Bluff Creek, Travis Creek, North Bluff Creek (crossing and longitudinal encroachment), Honey Creek, Messersmith Creek (longitudinal encroachment)
INTEREST: Farmland, several subdivisions and clustered homes, trailer park (S of Travis Creek), Honey Creek floodplain, Central Canal (ran parallel on the west side of the corridor), several businesses near Bluff Creek and SR 144, fire department, school, public water supply wells (near Travis Creek, Honey Creek/White River area), pipelines, recreation sites, tower, USTs and a leaking UST, powerlines (1 high voltage 345,000), house (N of Crooked Creek) potentially eligible for National Register, possible classified forest
POTENTIAL INTERCHANGES: SR 144, CR 900 N
POTENTIAL GRADE SEPARATION: CR 650 E (Perry Rd), CR 850 E (Waverly Rd), Stones Crossing Rd
OTHER: Federal species (mollusk, eagle) may be present. Several state listed mollusks were recorded. Honey Creek is impaired for impaired biotic communities.
PHYSIOGRAPHIC REGION: Tipton Till Plain (west) and New Castle Till Plains and Drainageways (east)



I-69 EVANSVILLE-TO-INDIANAPOLIS STUDY

Tier 1 Environmental Impact Statement

Preferred Alternative 3c Page 20 of 20

Bernardin-Lochmueller & Associates
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N

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0 0.2 0.4 0.6 0.8 1 Miles

0 1000 2000 3000 4000 5000 Feet

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Comments:

COVERAGE: Smith Valley to Indianapolis (Morgan, Johnson, Marion Counties)
CITIES/TOWNS: Smith Valley, Glenns Valley, Sunshine Gardens, Indianapolis
STREAM CROSSINGS: Honey Creek, Messersmith Creek (longitudinal encroachment), Pleasant Run Creek, Orme Ditch, Harness Ditch Little Buck Creek
INTEREST: Farmland, river and stream floodplains, many subdivisions, expanding homes and development, dense industrial area with many businesses (north), Central Canal, pipelines, powerlines, power substation (Banta Rd), USTs, several leaking USTs, RCRA sites, voluntary remediation site, toxic release sites, airport (Epler Ave), fire department, trailer park (Edgewood Ave), school (Smith Valley), recreation areas, communication tower, public water supply wells (Honey Creek / White River area), quarries (Indianapolis), homes potentially eligible for National Register, older homes, church (Glenns Valley)
POTENTIAL INTERCHANGES: CR 900 N (Smith Valley Rd), Johnson-Marion County Line, Southport Rd, I-465
POTENTIAL GRADE SEPARATION: CR 1000 N (Fairview Rd), Wicker Rd, Banta Rd, Epler Ave
OTHER: Honey Creek is impaired for impaired biotic communities.
PHYSIOGRAPHIC REGION: Tipton Till Plain (west) and New Castle Till Plains and Drainageways (east)

I-69 Evansville to Indianapolis Study
Tier 1 Final Environmental Impact Statement

Alternative 3: Historic Properties in the Area of Potential Effect (by Atlas Map Sheet)

KEY
Listing
(if multiple with = descrip) Name/Description (County, Site#)

Area of Potential Effect = 2-mile wide band

NOTE: Some properties are duplicated among sheets due to map overlap.

Potentially Eligible for National Register – properties evaluated for issues of base integrity by professional historians during windshield survey. More study is required to determine eligible boundaries, historical significance, and other details. Many properties were surveyed in County Interim Reports as part of the IHSSI (Indiana Historic Sites and Structures Inventory). See Section 106 report for photographs of individual properties.

MAP SHEET 1
Potentially Eligible for National Register
Farm (Warrick 00021)
Sam Clutter House (Vanderburgh 00002)

MAP SHEET 2
No Sites on the National Register, Potentially Eligible for National Register, or Indiana Register were found within the Area of Potential Effect (APE)

MAP SHEET 3
Potentially Eligible for National Register
County Bridge #175 (Pike 05002)
Farm (Pike 20009)
House (Pike 20001)

MAP SHEET 4
Potentially Eligible for National Register
Church (Pike 05007)
County Bridge #175 (Pike 05002)
5 Houses (Pike 05004, 05005, 05006, 05010, 05011)

MAP SHEET 5
Potentially Eligible for National Register
Thomas Singleton Round Barn (Daviess 35005)

MAP SHEET 6
Potentially Eligible for National Register
Daviess Co. Poor Asylum (Daviess 30013)
House (Daviess 30030)

MAP SHEET 7
Potentially Eligible for National Register
Daviess Co. Poor Asylum (Daviess 30013)
McCall Farm (Daviess 15007)
Miller House (Daviess 15002)

MAP SHEET 8
Potentially Eligible for National Register
Elnora Methodist Episcopal Church (Daviess 06003)
2 House (Daviess 05005, 06017)

MAP SHEET 9
No Sites on the National Register, Potentially Eligible for National Register, or Indiana Register were found within the Area of Potential Effect (APE)

MAP SHEET 10
National Register
Scotland Hotel (Greene 56002)
Potentially Eligible for National Register
Blackmore Store (Greene 56001)
Odd Fellows Hall/W D Whitaker Store (Greene 56003)

MAP SHEET 11
Potentially Eligible for National Register
Ashcraft Chapel & Cemetery (Greene 50026)
Clifty Church (Greene 50008)
County Bridge #48 (Greene 50021)
Farm (Greene 50005)
5 Houses (Greene 50022, 50009, 50035, 50023, 50024)
Valhalla (Greene 50027)

MAP SHEET 12
Potentially Eligible for National Register
County Bridge #311 (Greene 45041)
County Bridge #35 (Greene 45042)
Gable Front House (Greene 45057)
Joseph Thompson House (Greene 45001)
Koontz House (Monroe 45005)
Lawson Oliphant House (Greene 45047)

MAP SHEET 13
Potentially Eligible for National Register
Bowman-Shigley House (Monroe 35047)
Bridge No 18 (25036)
2 Farms (Monroe 40071, 45001)
George Piercy Ketcham House (Monroe 50036)
House (Monroe 35057)
Indian Hill Stone Company (Monroe 35061)
Koontz Cemetery (Monroe 40070)
May House (Monroe 40051)
Pleasant View Farm (Monroe 35089)
Stone Co. Building (Monroe 50050)
2 Stone Wall (Monroe 35060, 35050)

MAP SHEET 14
National Register, Historic District
Maple Grove Road Rural (Monroe)
National Register
Daniel Stout House (Monroe 25035)
Indiana Register
Borland House (Monroe 35020)
Potentially Eligible for National Register
Bowman-Shigley House (Monroe 35047)
2 Farms (Monroe 35051, 15067)
Jamerson House (Monroe 35044)
May House (Monroe 35045)
May House (Monroe 40051)
Stone Wall (Monroe 25019)

MAP SHEET 15
National Register, Historic District
Maple Grove Road Rural (Monroe)
National Register
Daniel Stout House (Monroe 25035)
Potentially Eligible for National Register
Amos Jones House (Monroe 05017)
Farm (Monroe 15067)
Stone Wall (Monroe 25019)

MAP SHEET 16
National Register
Hastings Schoolhouse (Morgan, 99000299)
Potentially Eligible for National Register
County Bridge #224 (Morgan 60030)

MAP SHEET 17
National Register, Historic District
East Washington Street (Morgan 109-386-62001-045)
Martinsville Commercial (Morgan 109-386-61001-077)
Northside (Morgan 109-386-63001-082)
National Register
Hastings Schoolhouse (Morgan, 99000299)
Martinsville High School Gym (Morgan, 64194)
Potentially Eligible for National Register
County Bridge #224 (Morgan 60030)
14 Houses (Morgan 64130, 64128, 64094, 64053, 64154, 64046, 64048, 64155, 64093, 64173, 64175, 64170, 64052, 64183)
Kennedy House (Morgan 64051)
Mitchell Mansion (Morgan 64184)

MAP SHEET 18
Potentially Eligible for National Register
Teters Farm (Morgan 35029)

MAP SHEET 19
Potentially Eligible for National Register
House (Morgan 30015)
Reuben Aldrich Sr. Farm (Morgan 30009)
Waverly Episcopal Church (Morgan 31002)

MAP SHEET 20
Potentially Eligible for National Register
2 Houses (Marion 85416, 85331)
Isaac Sutton House (Marion 85330)
Stutton House (Johnson 10002)

NOTE: Some sites are duplicated among sheets due to map overlap.
Source: Weintraut & Associates Historians, Inc. performed field windshield surveys and evaluated digital Indiana IHSSI Survey and National Park Service files.

I-69 Evansville to Indianapolis Study
Tier 1 Final Environmental Impact Statement

Alternative 3: Threatened and Endangered Species Summary by Atlas Sheet

KEY
Listing
A, P, C (Animal, Plant, Community)
sightings, common name, scientific name, (sighting year)
*date = within 2-mile wide band

Species are described in the EIS Appendix I.

MAP SHEET 1
State Endangered
A 1 American Bittern, Botaurus lentiginosus (1991)
A 1 Barn Owl, Tyto alba (1982)
A 1 Bewick's Wren Thryomanes bewickii (1991)
A 4 Copperbelly Water Snake Nerodia erythrogaster neglecta (1988, 1993, 1996, 1997)
A 1 King Rail, Rallus elegans (1991)
A 1 Least Bittern, Ixobrychus exilis (2001)
A 1 Northern Harrier Circus cyaneus (1995)
A 1 Sedge Wren Cistothorus platensis (1990)
State Special Concern
A 1 Cerulean Warbler, Dendrocia cerulea (1996)
A 1 Red-Shouldered Hawk, Buteo lineatus (1976)
Other
A 1 Great Blue Heron, Ardea Herodias (1996)

MAP SHEET 2
Federal / State Endangered
A 1 Indiana Bat, Myotis sodalis (*1993)
State Endangered
A 1 Yellow-Crowned Night Heron, Nyctanassa violacea (1996)
State Rare
P 2 Climbing Dogbane, Trachelospermum difforme (*1991, 1991)
P 2 Primrose Willow, Ludwigia decurrens (1991, 1991)
P 2 Water-Purslane, Didiplis diandra (*1991, 1991)

MAP SHEET 3
Federal / State Endangered
A 1 Indiana Bat, Myotis sodalis (*1993)
Federal Threatened/ State Endangered
A 2 Bald Eagle, Haliaeetus leucocephas (2002, 2002)
State Endangered
A 1 Barn Owl, Tyto alba (1990)
A 1 Black-Crowned Night-Heron, Nycticorax nycticorax (1974)
P 1 Branching Bur-Reed, Sparganium androcladum (1991)
P 2 Buttonweed, Diodia virginiana (*1991, 1991)
A 3 Copperbelly Water Snake*, Nerodia erythrogaster neglecta (1993, 1993, 1996)
P 2 Featherfoil, Hottonia inflata (1991, 1991)
P 1 Meadow Spike-Moss, Selaginella apoda (1991)
A 1 Northern Harrier, Circus cyaneus (*1985)
A 1 Northern River Otter, Lutra canadensis (1995)
A 1 Short-eared Owl, Asio flammeus (1987)
P 1 Virginia Willow, Itea virginica (1991)
A 1 Yellow-Crowned Night-Heron, Nyctanassa violacea (1996)
State Rare
P 2 Climbing Dogbane, Trachelospermum difforme (*1991, 1991)
P 2 Green Flatsedge, Cyperus pseudovegetus (*1991, 1939)
P 1 Longbeak Arrowhead, Sagittaria australis (*1991)
P 2 Primrose Willow, Ludwigia decurrens (1991, 1991)
P 2 Slender Pondweed, Potamogeton pusillus (1991, 1991)
P 2 Water-Purslane, Didiplis diandra (*1991, *1991)
State Special Concern
A 1 Red-Shouldered Hawk, Buteo lineatus (1983)
A 1 Rough Green Snake, Opheodrys aestivus (1993)
State Significant
C 1 Wet-Mesic Floodplain Forest (1991)
Other
A 2 Great Blue Heron, Ardea herodias (1993, 1993)

MAP SHEET 4
Federal / State Endangered
A 1 Clubshell, Pleurobema clava (1991)
A 1 Tubercled blossom, Epioblasma torulosa torulosa (1991)
State Endangered
A 1 A Mayfly, Pseudiron centralis (1975)
A 2 American Badger, Taxidiea taxus (*1984, 1989)
A 1 King Rail, Rallus elegans (*1976)
A 1 Long-Solid, Fusconaia subrotunda (1991)
A 1 Northern Harrier, Circus cyaneus (*1985)
A 1 Pyramid Pigtoe, Pleurobema pyramidatum (1991)
A 1 Rabbitfoot, Quadrula cylindrica cylindrica (1991)
State Special Concern
A 1 Blue Sucker, Cycleptus elongates (1977)
A 1 Kidneyshell, Ptychobranchus fasciolaris (1991)
A 1 Ohio Pigtoe, Pleurobema cordatum (1991)
A 1 Round Hickorynut, Obovaria subrotunda (1991)
State Significant
C 1 Dry-Mesic Upland Forest (1982)
Other
A 1 Western Sand Darter, Ammocrypta clara (1978)
A 1 Yellow Sandshell, Lampsilis teres (1991)

MAP SHEET 5
State Endangered
A 1 American Badger, Taxidea taxus (*1991)
A 1 Barn Owl, Tyto alba (1988)
A 1 Harlequin Darter, Etheostoma Histrio (*1998)
A 2 Loggerhead Shrike, Lanius ludovicianus (1983, *1988)
State Significant
C 1 Circumneutral Seep (1985)
Other
A 1 A Sand Minnow Mayfly, Siphloplecton interlineatum (*1936)

MAP SHEET 6
State Endangered
A 1 American Badger, Taxidea taxus (*1991)
A 2 Loggerhead Shrike, Lanius ludovicianus (*1988, 1988)

MAP SHEET 7
State Endangered
A 5 Loggerhead Shrike, Lanius ludovicianus (*1988, 2000, 2000, *2000, *2000)
State Rare
P 1 Orange Coneflower, Rudbeckia fulgida var fulgida (*1936)
State Significant
C 1 Wet Floodplain Forest (1984)

MAP SHEET 8
Federal / State Endangered
A 1 Clubshell, Pleurobema clava (1991)
A 1 Eastern Fanshell Pearlymussel, Cyprogenia stegaria (1991)
A 1 Tubercled Blossom, Epioblasma torulosa torulosa (1991)
Federal Endangered / State Extirpated
A 1 Ring Pink, Obovaria retusa (1991)
State Endangered
A 1 American Badger, Taxidea taxus (1981)
A 1 Barn Owl, Tyto alba (1987)
P 1 Lake Cress, Armoracia aquatica (2002)
A 1 Loggerhead Shrike, Lanius ludovicianus (*1993)
A 1 Long-Solid, Fusconaia subrotunda (1991)
A 1 Pyramid pigtoe, Pleurobema pyramidatum (1991)
A 1 Rabbitsfoot, Quadrula cylindrica cylindrica (1991)
State Special Concern
A 1 Eastern Sand Darter, Etheostoma pellucidum (1942)
A 1 Kidneyshell, Ptychobranchus fasciolaris (1991)
A 1 Round Hickorynut, Obovaria subrotunda (1991)
Other
A 1 Pocketbook, Lampsilis ovata (1991)
A 1 Yellow Sandshell, Lampsilis teres (1991)

MAP SHEET 9
State Endangered
A 1 Loggerhead Shrike, Lanius ludovicianus (1988)

MAP SHEET 10
Federal / State Endangerd
A 1 Indiana Bat, Myotis sodalis (1998)
Federal Threatened / State Endangered
A 2 Bald Eagle, Haliaeetus leucocephalus (1993, 2002)
State Endangered
A 1 Bobcat, Lynx rufus (1999)
A 1 Northern River Otter, Lutra canadensis (1992)
State Significant
C 1 Dry-Mesic Upland Forest (1985)
C 1 Mesic Upland Forest (1985)

MAP SHEET 11
Federal / State Endangered
A 2 Indiana Bat, Myotis sodalis (*1999, 2000)
State Endangered
A 1 Bobcat, Lynx rufus (1998)
A 1 Southeastern Bat, Myotis austroriparus (1958)
A 1 Troglobitic Crayfish, Orconectes inermis testii (1967)

NOTE: Some sites are duplicated among sheets due to map overlap.
Source: Indiana Department of Natural Resources, Heritage Database (digital files, July 2003); supplemented by sitings provided by Indiana bat and bald eagle experts.
* All copperbelly water snake records are all part of the southern population below the 40th parallel which are not listed as federally threatened (USFWS).

Alternative 3: Threatened and Endangered Species Summary by Atlas Sheet

MAP SHEET 12
Federal / State Endangered
A 1 Indiana Bat, Myotis sodalis (*2001)
A 1 Troglobitic Crayfish, Orconectes inermis testii (*1961, *1970)
Other
A 1 A Troglobitic Crayfish, Orconectes inermis inermis (1975)

MAP SHEET 13
Federal / State Endangered
A 2 Indiana Bat, Myotis sodalis (2001, 2003)
State Endangered
P 1 Black-Fruit Mountain-Ricegrass, Oryzopsis racemosa (1982)
A 3 Bobcat, Lynx rufus (*1987, 1990, 1999)
P 1 Mercury, Acalypha deamii (1999)
P 1 Narrow-Leaved Puccoon, Lithospermum incisum (1921)
A 4 Troglobitic Crayfish, Orconectes inermis testii (*1961, 1972, 1972, *1975)
State Rare
P 1 Golden Alexanders, Zizia aptera (1979)
State Significant
C 1 Aquatic Cave, (1990)
C 1 Dry-Mesic Upland Forest (No Date)
C 1 Limestone Cliff (1983)

MAP SHEET 14
Federal Endangered / State Extirpated
A 1 American Burying Beetle, Nicrophorus americanus (1906)
State Endangered
A 1 A Northern Casemaker Caddisfly, Goera stylata (*1947)
A 1 American Badger, Taxidea taxus (No Date)
A 2 Cave Beetle, Pseudanophthalmus shilohensis mayfieldensis (*1957, 1957)
P 1 Green Adder's Mouth, Malaxis unifolia (1886)
P 1 Horned Pondweed, Zannichellia palustris (2002)
A 1 Jordan Cave Isopod, Caecidotea jordani (1961)
A 1 Northern Cavefish, Amblyopsis spelaea (1907)
A 1 Upland Sandpiper, Bartramia longicauda (1953)
A 4 Troglobitic Crayfish, Orconectes inermis testii (1896, *1955, 1975, 1975)
State Special Concern
A 1 Least Weasel, Mustela nivalis (*1998)
A 1 Sharp-Shinned Hawk, Accipiter striatus (1989)
A 1 Western Ribbon Snake, Thamnophis proximus (No Date)
State Rare
A 1 Millipede, Conotyla bollmani (1896)
State Watch List
P 1 Butternut, Nicrophorus americanus (1927)
State Significant
C 1 Dry-Mesic Upland Forest (1988)
C 1 Mesic Upland Forest (1988)
Other
A 2 An Agapetus Caddisfly, Agapetus gelbae (*1946, *1946)
A 1 Carter's Cave Spider, Nesticus carteri (1907)
A 1 Granulated Milliped, Scytonotus granulatus (1887)
A 1 Lined Nursery Web Spider, Dolomedes scriptus (1907)
A 1 Pallid Funnel Web Spider, Cicurina pallida (1907)
A 1 Spelean Rove Beetle, Quedius spelaeus (1896)

MAP SHEET 15
State Endangered
P 1 Green Adder's-Mouth, Malaxis unifolia (1886)
P 1 Horned Pondweed, Zannichellia palustris (2002)
A 2 Kirtland's Snake, Clonophis kirtlandii (1948, 1996)
A 1 Northern Crawfish Frog, Rana areolata circulosa (1991)
State Significant
C 1 Dry-Mesic Upland Forest (1988)
C 1 Mesic Floodplain Forest (1995)
C 1 Mesic Upland Forest (1988)
A 1 Troglobitic Crayfish, Orconectes inermis testii (1975)
State Special Concern
A 1 Least Weasel, Mustela nivalis (*1998)
State Watch List
P 1 Butternut, Juglans cinerea (1927)
Other
A 2 Great Blue Heron, Ardea herodias (1995, 2001)

MAP SHEET 16
Federal Threatened / State Endangered
A 1 Bald Eagle, Haliaeetus leucocephalus (1999)
State Endangered
A 1 A Homoplectran Caddisfly, Homoplectra doringa (1975)
A 2 American Badger, Taxidea taxus (*1977, 1983)
A 1 Bobcat, Lynx Rufus (1999)
A 1 Gilt Darter, Percina evides (1977)
A 1 Northern River Otter, Lutra canadensis (*No Date)
A 3 Timber Rattlesnake, Crotalus horridus (1997, 1999, 1999)
State Special Concern
A 1 Hooded Warbler, Wilsonia citrina (1997)

MAP SHEET 17
State Endangered
A 1 Alligator Snapping Turtle, Macroclemys temmincki (1991)
A 1 American Badger, Taxidea taxus (*1977)
A 1 Henslow's Sparrow, Ammodramus henslowii (2002)
A 1 Kirtland's Snake, Clonophis kirtlandii (*1970)
A 1 Northern River Otter, Lutra Canadensis (*no date)
A 1 Timber Rattlesnake, Crotalus horridus (1999)
State Special Concern
A 1 Red-shouldered Hawk, Buteo lineatus (1986)

MAP SHEET 18
State Endangered
A 1 Kirtland's Snake, Clonophis kirtlandii (*1994)
Other
A 1 Spatterdock Darner, Aeshna mutata (*1994)

MAP SHEET 19
Federal/State Endangered
A 1 Clubshell, Pleurobema clava (*1989)
A 1 Northern Ribbleshell, Epioblasma torulosa rangiana (*1989)
Federal Threatened/State Endangered
A 1 Bald Eagle, Haliaeetus leucocephalus (2002)
State Endangered
A 1 Barn Owl, Tyto alba (1985)
A 1 Bobcat, Lynx rufus (*1989)
A 1 Pyramid Pigtoe, Pleurobema pyramidatum (*1989)
A 1 Rabbitsfoot, Quadrula cylindrical cylindrical (*1989)
State Special Concern
A 1 Round Hickorynut, Obovaria subrotunda (*1989)
State Significant
C 1 Circumneutral Seep (*1981)
Other
A 1 Black Sandshell, Ligumia recta (*1989)
A 1 Great Blue Heron, Ardea herodias (*1993)
A 1 Pocketbook, Lampsilis ovata (*1989)

MAP SHEET 20
State Significant
C 1 Wet Mesic Floodplain Forest (1979)
Other
A 1 Great Blue Heron, Ardea herodias (*1993)

NOTE: Some sites are duplicated among sheets due to map overlap.
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* All copperbelly water snake records are all part of the southern population below the 40th parallel which are not listed as federally threatened (USFWS).